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United States Army Health Care Studies and Clinical Investigation Activity

TIME UTILIZATION IN THE ARMY DENTAL CORPS

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Part II. PRACTICE PROFILES OF ARMY DENTISTS

Procedure "overhead" (general procedures plus diagnostic procedures), the cost in time for making ready to treat, accounted for 37% of all dentists' time. Both removable prosthodontists and oral surgeons spent 39% of their time in general procedures. In the case of removable prosthodontists, they account for much of their interim pre- and post-prosthetic treatment time with procedures in the "general" category. In the case of oral surgeons, half of the general procedures (such as hospital ward rounds and cellulitis treatment) are more related to what an oral surgeon does than to any other specialty.

Pedodontists spent a greater proportion of time in prevention than any other specialty. Orthodontists spend more time doing procedures in their specialty category than any other specialist. Since general dentists (63A) comprised the largest group of dentists, they accounted for the greatest amount of time spent in most procedure categories. On the other hand, specialists accounted for a greater amount of time spent doing difficult procedures.

Fixed prosthodontists achieved the highest productivity measured in both weighted work units (WWUs) and "dollar" value. The fact that other specialists would have had to increase their weighted work units by an average of 38% and their "dollar" output by 88% to equal fixed prosthodontists, indicates an apparent inconsistency in the procedure weighting process. WWUs are a less distorting measure of productivity.

Commanders and clinic chiefs are only slightly less productive than other specialists. Board eligible specialists were more productive than board certified specialists.

Generally, Army dentists spent more time treating active duty personnel than any other patient category. The exceptions were removable prosthodontists, pedodontists, orthodontists, and oral pathologists.

Specialists generally were faster doing specialty procedures, with the exception of oral diagnosis. The variation in procedure times was large.

I. SURVEY OF ARMY DENTAL PRACTICE.

INTRODUCTION

A strong element of similarity exists between military and civilian dental practice; however, differences do exist. The typical civilian dentist is self-employed and provides care in a private practice on a fee-for service basis. In contrast, the Army dentist is an employee, providing care in a group practice for a salary. In addition, the Army dentist has dual roles as a clinician and a military officer.** The American Dental Association provides current information on civilian practice.[1] The same type of information has not been available for Army dental practice. Previous studies have focused on military specific problem areas.[2-3] The purpose of the Survey of Army Dental Practice was to obtain data with which to compare civilian and Army dental practice.

METHODOLOGY

During May 1984, all Army Dental Corps officers were requested to complete a Survey of Army Dental Practice (Appendix C). This survey, in optical mark-read format, was patterned after the 1982 American Dental Association Survey of Dental Practice.

** The Army dentist is involved in mandated military duties.[4] An example is the training he receives each year to prepare to live and work under field conditions and to provide acute trauma life support to augment the physician's efforts during mass casualty periods. This time is not included in the comparisons made between civilian and Army dental practice.

The completed forms were read and analyzed using an SPSS statistical package. For the purposes of this paper, the term "general dentist" refers to a "general practitioner," a dentist without residency training. Dentists who have had a two-year general dentistry residency are referred to as general dentistry specialists. The term "solo practitioner" was defined in the ADA survey as a dentist who worked in a "solo dental practice." An "independent dentist" was defined "as one who is an owner, full or in part, of a private practice."[1]

RESULTS

Seventy seven percent (1359) of Army Dental Corps officers responded to the survey. Because the distribution of dental officers is highly skewed toward recent graduates (Figure 1), median values are be to used to characterize Army dental practice in Part 1. Comparisons of Army and civilian dental practice, in Part 2, are made on the basis of means since this is how the data were reported in the ADA survey.

PART 1: ARMY DENTAL PRACTICE

A profile of Army dentists is given in Table 1. It shows that the "typical" Army general dentist is 31 years old, has had no civilian practice experience, and has had four years of military practice. He has moved twice, and has 16 more years to a 20 year retirement.

The "typical" Army specialist is 40 years old, and like the general dentist, has had no civilian practice. He has had 13 years of military practice, seven years experience in his specialty, moved six times, and has eight more years to retire.

As seen in Figure 2, virtually all Dental Corps officers who have more than 10 years of service are dental specialists.

The proportion of Army dental specialists is shown in Figure 3. Thirty-one percent have achieved diplomate status. Three percent have received special "professorial-level" recognition from the Surgeon General for their professional achievements (Figure 4).

Professional activities of Army general dentists and dental specialists are shown in Figure 5. Eighty four percent of Army general dentists have at least one state license, 75% belong to a professional organization, and 95% reported attending at least one dental meeting during the past year. Figure 5 also shows that specialists are more likely than the general dentists to have more than one state license, belong to more than one professional organization, and to have published in a professional journal.

The distribution of Army dentists' primary duties is shown in Figure 6. The majority of dental officers listed "clinical dentist" as their primary duty assignment. (Table 2) On the other hand, more specialists cited other categories such as "clinic director" or "program director" which require greater experience and training.

Army Dental Corps officers are frequently assigned additional administrative duties (Table 3). After "other duties," "preventive dentistry officer," was listed more often by general dentists as an extra duty, while more specialists indicated "mentor." Additional data on Army dental officers is

given in Appendix D.

PART 2: ARMY DENTAL PRACTICE VERSUS CIVILIAN DENTAL PRACTICE.

Comparisons between the Army survey and the ADA survey were made on the following items:

- year of graduation
- hours per week in selected activities
- percentage of time treating patierts by type of procedure
- number of auxiliary personnel per doctor
- equipment included in practice
- patient scheduling
- perceived practice busyness

The average Army dentist officer graduated in 1974, approximately ten years after his civilian counterpart in private practice (Figure 1). How dental officers spend their practice time in comparison to civilian dentists is presented in Tables 4 and 5. Table 4 contains estimates for time spent in practice activities, and Table 5 gives the proportion of treatment times spent in performing selected dental procedures. Army dentists reported they spend 33.4 hours per week treating patients, while the ADA Survey reported that civilian solo dentists and independent dentists spend 32.0, and 32 4 hours per week, respectively. Army general dentists had the longest amount of patient treatment time: 35.4 hours versus 32.4 for the independent civilian dentist and 32.1 for the solo civilian dentist. Army specialists report spending slightly less time per

week treating patients (30.3 hours) than either solo specialists (31.3 hours) or independent specialists (31.7 hours). Professional reading accounted for 4.7 hours of the Army specialist's week, almost twice as much time spent than either the solo specialist or the independent specialist (2.4 and 2.5 hours respectively). All categories of Army dentists reported spending more time in administrative and clerical activities than their civilian counterparts. Army dentists said they spent an average of 3.2 hours per week completing records compared to independent dentists who reported 1.9 and solo dentists who reported 1.8 hours per week filing pre-payment forms and bookkeeping.

Army dentists reported spending more time in diagnosis and less time in preventive activities (10.8% and 3.6%) than did the solo civilian (9.6% and 9.5%) or the independent civilian dentist (9.6% and 8.6%). Civilian dentists reported spending more time in operative dentistry (38.0% and 37.5%) than Army practitioners (27.7%). Dental officers spent more time in prosthodontics (17.6%) than either category of civilian dentist (14.4% and 14.8%). The same trend was evident in the practice of oral surgery with Army dentists spending more of their time in surgical procedures (11.0%) than both categories of civilian dentists (6.5% and 6.5%). Army specialists reported spending almost twice as much time in diagnostic procedures: 14.3% versus 7.5% and 7.9% for the solo and independent specialists.

Table 6 makes comparisons for number of chairside assistants, types of equipment available, number of operatories utilized, and work simplification techniques. Army dentists

report having slightly more dental assistants than do civilian solo dentists (1.5 versus 1.2 respectively). More Army dentists report using "four-handed dentistry" techniques (62.4%) than either solo or independent dentists (54.2% and 57.3%), although Army dentists also reported they had fewer operatories available to them (1.8) than did their civilian counterparts (2.6 and 3.2).

There was little difference between civilian and military dentists in the use of light cured composite restorations. More Army dentists, however, use fiber optic handpieces and panoramic X-ray units than civilian dentists. On the other hand, fewer Army dentists use electrosurgical units and nitrous oxide analgesia than do their civilian counterparts.

Table 7 compares the number of patients seen per week by civilian and Army dentists. Although Army and civilian dentists spend about the same amount of time per week treating patients (Table 6), Army dentists see a larger number of non-scheduled patients than either civilian category; Army dentists also schedule fewer patients per week than solo and independent dentists (43.4 versus 58.1 and 58.9). Civilian specialists reported scheduling twice as many patients per week within virtually the same amount of treatment time as Army specialists: 90.4 and 91.0 for solo and independent specialists versus 40.4 for Army specialists. Civilian patients wait only half as long as Army patients for an appointment (7.7 days versus 18.2 days). Patients waiting time in the reception room after arriving for an appointment is about the same for both modes of practice.

Dentists' perceptions of practice busyness are compared in Figure 7. Fifty-nine percent of all Army dentists said they were too-busy or over-worked versus 15.4% of the solo and 14.6% of the independent dentists (Table 8). Army specialists rate their practices even busier: 65.4% said they were too busy or overworked versus 7.8% and 7.5% for solo and independent specialists, respectively.

DISCUSSION

A comparison of the ADA survey with the Army survey shows that while these two modes of practice are similar, differences do exist. The Army Dental Corps has more recent graduates than civilian practice. This is not surprising for two reasons: a greater proportion of graduates choose working for the federal services initially,[5] and Army dentists are precluded from serving more than 30 years in the Dental Corps. Certain types of equipment such as panoramic X-ray units were used by more Army dentists. One would expect that where patient volume is large enough, such as in an Army dental clinic, there would be greater justification to purchase such equipment. On the other hand, fewer Army dentists use electrosurgical units and nitrous oxide analgesia than civilian dentists. This is due to a credentialing process which limits access to these treatment modalities to those especially trained to use them. Civilian practitioners typically schedule more patients per week than Army practitioners and their patients have a shorter time to wait for an appointment. However, the number of patients treated per week by general dentists is about the same for both modes of practice. Civilian specialists schedule twice as many patients within

virtually the same amount of treatment time as Army specialists. A logical inference is that Army specialists choose to schedule longer appointments. Appointment scheduling behavior within the civilian sector probably is the result of practice marketing strategies. Given a relatively fixed treatment period, seeing more patients in shorter appointments both reduces patients' waiting times for appointments and may increase consumers' acceptance of the dental fee if they are seen often and the charges are not too great per dental visit. A consequence of more frequent appointments is increased patient handling time resulting in decreased efficiency and increased cost of dental care in the long run. Army specialists reported spending almost twice as much time in diagnostic procedures as the civilian specialist. This may be partially explained by the fact that one out of every five Army specialists is involved either as a program director or mentor in a dental postgraduate training program. Finally, nowhere is the gulf between military and civilian dentists wider than their antipodal attitudes towards practice busyness: the civilian responses clustering about "not being busy" and the military responses clustering about "being too busy." Army dentists may feel they are too busy because they have a seemingly never ending patient pool seeking their services and also no matter how hard they work, their remuneration remains constant. On the other hand, civilian dentists may feel that their patient pool is limited and they would like to be busier since their income is based on a fee for service rendered.

CONCLUSIONS

Our results suggest that while both Army dentists and civilian dentists practice the same profession, there are differences based on practice management strategies which affect both patient scheduling behavior and perceptions of busyness. Training needs of the Army Dental Corps also influence how Army specialists practice. Constraints imposed by individual dentists credentialing limits access to certain modalities of treatment within the Army Dental Corps.

II. TREATMENT PROFILES OF ARMY DENTAL PRACTICE

INTRODUCTION

The final part of the study describes practice profiles of Army dentists. Selected demographic variables from the Survey of Army Dental Practice were examined to determine their relationships to distribution of dental treatment, categories of patients, time to perform dental procedures, and dental productivity.

METHODOLOGY

Provider characteristics from the Survey were related to dental procedure data. Procedure data were collected in Health Services Command dental treatment facilities 1 - 31 May 1984 for a period of 22 working days. These data included patient category, the time the patient entered and left the treatment area, procedure code for treatment, time interval for each procedure, the level of ancillary support, and perceived treatment difficulty (Appendix E). Real-time measurements were not made during dental treatment but rather recorded time intervals were based on dentists' ability to recall estimated treatment times at the end of the appointment.

Unless otherwise indicated, the following data exclude students and dentists in specialties with fewer than 10 members (Oral Medicine n=3, Public Health n=5, and Oral Pathology n=9).

RESULTS

During the study period, 896 dentists recorded 200,939 patient encounters and time measurements on 858,000 dental

procedures. The encounter and survey data bases were merged by specialty skill identifier (SSI) and social security number (SSN). Data on forms containing invalid SSI or SSN fields were omitted resulting in a loss of approximately 100,000 procedures (12%).

DISTRIBUTION OF TREATMENT TIME

The distribution of all categories of dentists' treatment time by procedure group is shown in Figure 8. Restorative procedures accounted for the greatest use of treatment time (30%). General procedures (20%) and diagnostic procedures (17%) add up to 37%. Preventive procedures accounted for eight percent of the time.

The practice patterns of general dentists and general dentistry specialists are similar (Figure 9). Where differences exist, they are in diagnosic and restorative time. General dentistry specialists spent more time in diagnosis (19% versus 15%) and less in restorative procedures (31% versus 39%) than general dentists. The specialist also spent slightly more of his time in prosthetics, but they spent equal time in prevention (7%) and surgery (6%). Reported orthodontic procedure time was less than one percent for both groups.

Treatment time of periodontists and endodontists is compared in Figure 10. The most striking differences are in preventive, restorative and surgical procedures. Periodontists report seven times more preventive time and five times more oral surgical time. On the other hand, endodontists report five times more treatment time spent in restorative procedures. Both spent about

the same amount of time in oral diagnosis (26% and 25% respectively).

How prosthodontists allocate their treatment time is shown in Figure 11. The most prominent feature is the difference in time spent in diagnostic and general procedures. Removable prosthodontists spent 58% of their time in these two categories, versus 37% for fixed prosthodontists. Both spent about the same proportion of time in preventive procedures. Fixed prosthodontists spent a greater proportion of time in restorative (17% versus 8%) and periodontic procedures (10% versus 6% for removable prosthodontists). Fixed prosthodontists also reported spending two percent of their time in removable prosthodontics and one percent in endodontics. The practice profile of oral surgeons is shown in Figure 12. They spent 39% of their time doing adjunctive general procedures (the same as removable prosthodontists), which is more time than they spent on oral surgery procedures (31%). Diagnosis accounted for 23%, and periodontics and orthodontics each accounted for one percent. Five percent of the oral surgeons' time was devoted to preventive dentistry.

Figure 13 shows how pedodontists and orthodontists divide their practice time. Orthodontists spent 56% of their time in their specialty, a larger proportion of time than other specialists. They also spent less time in adjunctive general procedures (14%) than other specialists. Nineteen percent of an orthodontist's time was in diagnosis and 10% in prevention. Periodontics procedures accounted for one percent.

The largest amount of the pedodontists' time was spent in preventive related procedures (24%), followed by adjunctive general procedures (22%), and restorative procedures (21%). Orthodontics accounted for eight percent, fixed prosthetics for six percent, periodontics and oral surgery each accounted for two percent, and endodontics for one percent of pedodontic time.

TREATMENT TIME IN SPECIALTY-COMMON PROCEDURE GROUPS

Figures 14-17 give the percentage of time each group of specialists spent in diagnostic, preventive, restorative and general procedure groups. Oral medicine specialists, oral pathologists and public health dentists spent most of their treatment time in oral diagnosis and periodontists, endodontists and oral surgeons spent about one-fourth of their time in diagnosis (Figure 14). Pedodontists, periodontists, and orthodontists each spent over 10% of their time in preventive procedures; endodontists spent the least amount of time in prevention (Figure 15). Both general dentists and general dentistry specialists each spent over 30% of their time in restorative procedures (Figure 16). Removable prosthodontists and oral surgeons each spent almost 40% of their time in general procedures (Figure 17).

TREATMENT PROFILE BY PROCEDURE GROUP

The following data show how procedure group treatment time is apportioned among the dental specialties. The data are sensitive to the numbers of dentists within each group. Since general dentists (63A) comprise the largest group (n=543), they accounted for the largest proportion of time spent within many of

the treatment categories. An illustration of this is the distribution of diagnostic time in Figure 18 which shows that general dentists accounted for almost twice as much of the diagnostic time (55%) as all categories of dental specialists put together (29%).

Figure 19 shows that 57% of the time spent in preventive procedures was accounted for by general dentists. General dentistry specialists (n=120) and pedodontists (n=23) each accounted for 10%, periodontists (n=53) for seven percent, and removable prosthodontists (n=44) four percent. Fixed prosthodontists (n=42), orthodontists (n=24) and oral surgeons (n=40) each accounted for three percent and endodontists (n=38) one percent.

Figure 20 shows that virtually all the time spent doing restorative dentistry was spent by general dentists: 63A (81%) and 63B (12%). Fixed prosthodontists and pedodontists are next, each with two percent, followed by endodontists and removable prosthodontists, each with one percent.

A breakdown of endodontic time is shown in Figure 21. Both categories of general dentists together accounted for twice as much of the endodontic time as endodontists (66% versus 33%). Fixed prosthodontists and pedodontists each accounted for one percent of the time. Figure 22 shows a profile of selected endodontic procedures. More time was spent doing bleaching and one-canal root canals by general dentists than by endodontists. On the other hand, more time was spent by endodontists doing molar root canals than by general dentists and general dentistry specialists.

The distribution of periodontic time is shown in Figure 23. Most time in periodontics was spent by general dentists (51%) followed by periodontists (32%) and general dentistry specialists (11%). Figure 24 shows that most of the periodontic practice time of general dentists was spent scaling and doing occlusal adjustment while most periodontists' time was spent in root planing and surgical periodontics.

Forty-two percent of the time in removable prosthodontists was accounted for by removable prosthodontic specialists versus 38% for general dentists (Figure 25). General dentistry specialists accounted for 14% and fixed prosthodontists five percent of the time. Fixed prosthetics time distribution is shown in Figure 26. Both categories of general dentists (63A and 63B) accounted for 67% of time spent in prosthetics versus fixed prosthodontists which accounted for 27% of the time. General dentists provided almost twice as much fixed prosthetic treatment time as prostnodontists.

Distribution of surgical time is shown in Figure 27. General dentists accounted for approximately three times more oral surgery time than oral surgeons. General dentistry specialists accounted for 12%. Figure 28 shows which surgical procedures general dentists (63A and 63B) spent most of their time doing. Both categories of general dentists accounted for 47% of simple extraction time and 43% of complicated extraction time versus 10 and nine percent respectively, for oral surgeons. Time spent doing impactions was almost equally divided between the two categories of general dentists and oral surgeons while

50% of all "other" oral surgery time was spent by oral surgeons compared to 22% and 29% for 63As and 63Bs respectively.

General adjunctive procedure time was apportioned in the following manner: General dentists 58%; general dentistry specialists 12%; removable prosthodontists and oral surgeons, eight percent each; periodontists and pedodontists, each three percent; and endodontists and orthodontists, two percent each (Figure 29).

PROCEDURES ON CHILDREN

The profile of selected dental treatment done on children is shown in Figures 30-32. Fifty-four percent of uncomplicated extraction time on children was spent by general dentists. Pedodontists accounted for 24%, general dentistry specialists for nine percent and oral surgeons for 12% (Figure 30). The picture changes somewhat when the profile of impacted extractions is examined. Oral surgeons accounted for most of the impacted extraction time (57%) versus 35% for the general dentists. General dentistry specialists accounted for 10% and pedodontists accounted for only one percent of impacted extraction time on children.

Figure 31 shows that most one-surface amalgam time was spent by general dentists while most deciduous pulpotomy time was spent by pedodontists, and about an equal amount of periodontal scaling time was accounted for by general dentist and pedodontists. Orthodontists accounted for more periodontal scaling time than periodontists or general dentistry specialists. A profile of selected orthodontic procedures is shown in Figure 32. Although

there are five times as many general dentists as there are general dentistry specialists, the former accounted for 10 times more simple hawleys, space maintenance appliances, and banding time as general dentistry specialists. Orthodontists spent more time in banding and simple hawley appliances, while pedodontists spent more time in space maintenance appliances.

PROCEDURES NOT PERFORMED

Twenty-six procedures were not recorded on the patient encounter forms during the study period. A list of these procedures is given in Appendix F. General procedures, restorative, endodontics, periodontics, and orthodontics each accounted for one, oral surgery for three, and removable prosthetics accounted for 17 of the non-used procedures. Appendix G lists 137 procedures that were performed infrequently (n = <100).

PATIENT CONTACT TIME

Daily contact hours, the time actually spent performing dental treatment is shown in Figure 33. The greatest amount of treatment time was by pedodontists, who provided 4.5 hours of direct patient care followed by general dentists who provided four hours. The other specialists' times ranged from 3.0 to 3.4 treatment hours with an average of 3.5 hours of direct treatment. The effect of additional duties is shown in Figure 34. Dentists who are not assigned extra duties average 3.8 hours in direct treatment. Mentors in a training program and clinic directors spent slightly less time treating patients (3.3 and 3.4 hours respectively). A commander of a dental activity was able to

spent only one-fourth of the patient contact time as a dentist not assigned additional duties (0.9 versus 3.8 hours per day).

PRODUCTIVITY

Weighted work units [6] per contact hour is shown in Figure 35. Fixed prosthodontists produce 11 weighted work units (WWUs) per direct contact hour, followed by periodontists and removable prosthodontists who each produce nine WWUs per hour. All other specialty groups produce eight WWUs except for endodontists who average seven WWUs per hour. Daily weighted work units are shown in Figure 36. Fixed prosthodontists produce 38 WWUs per day followed by pedodontists who produce 35 WWUs per day. General dentists, general dentistry specialists, and removable prosthodontists are next with 31, 27 and 27 WWUs, respectively. Oral surgeons produce 26 WWUs per day followed by endodontists and orthodontists who each produce 25 per day. The fewest (23 WWUs per day) was produced by periodontists.

Figure 37 shows "dollars"[6] produced per contact hour by dental specialty. Fixed prosthodontists produce 229 "dollars" for each hour of direct patient treatment. They are followed by periodontists and removable prosthodontists who produce 158 and 141 "dollars" per hour respectively. Next are endodontists with 128, oral surgeons with 122, general dentistry specialists with 119, pedodontists with 105, and general dentists with 100 dollars per hour. The smallest amount of "dollars" per hour was produced by orthodontists (89 per hour). Dollars produced per day by specialty are shown in Figure 38. Fixed prosthodontists produce 764 "dollars" per day. Periodontists and pedodontists

are next with 508 and 469, respectively. Endodontists and removable prosthodontists produce 429 and 425, respectively. Next are general dentists with 409, general dentistry specialists with 388 and oral surgeons with 386 per day. The least amount (298 "dollars") was produced by orthodontists.

Figure 39 gives the percentages by which the other dental specialties would have to increase their daily contact hours to equal the number of weighted work units and "dollars" to equal that produced by fixed prosthodontists. Orthodontists would have to increase their patient contact hours by 156% (a factor of 2.56) to equal the "dollar" amount and 48% (a factor of 1.48) to equal the WWUs produced per day by fixed prosthodontists. General dentists would have to work 128 percent more time and 47% more time to equal fixed prosthodontists' WWUs and "dollar" output. The average percentage increases for the other specialists are 88% and 38% for "dollars" and WWUs.

The productivity of commanders and clinic chiefs versus specialists is shown in Figure 40. Commanders and clinic chiefs, who are assigned additional administrative duties, average about 60 "dollars" less productive output than other specialists. The only exception was orthodontists who produced the same amount. The productivity of non-mentor board certified and board eligible specialists is shown in Figure 41. Board certified specialists averaged 116 "dollars" less productive output. The only exception were board certified pedodontists who averaged 65 "dollars" per day than their board eligible counterparts. The productivity of all specialists versus mentors is shown in Figure

42. Mentors, which included full as well as part time mentors, averaged 123 "dollars" less productive output per day than non-mentors. However, mentors in periodontics, removable prosthodontics and orthodontics produced more than non-mentors.

PATIENT CATEGORIES

The distribution of treatment time provided different patient categories by each dental specialty is shown in Figure 43. The distribution of patient categories treated is shown in Figure 44.

General dentists and general dentistry specialists spent 61% and 62% of their time treating active duty soldiers and soldiers also make up 62% and 64% of the patients they treat. Fixed prosthodontists spent the largest amount of time treating soldiers (69%) who comprise 70% of the fixed prosthodontists' practice. Removable prosthodontists spent more time treating retirees (45%); however, they treat a larger proportion of soldiers than retirees (43 versus 36 percent). Public health dentists spent 80% of their time treating soldiers, who made up 92% of their practice. Pedodontists' and orthodontists' time was almost all taken up treating children (96 and 89%) and 96% and 89% of the patients treated by pedodontists and orthodontists were children. The specialists who came closest to spending an equal amount of time on each patient category were oral pathologists (34% active duty; 36% dependents; and 27% retired).

PROCEDURE TIMES

Average procedure times by years of practice is shown in Figure 45. In general, up to 15 years, the average time per procedure remained fairly constant at about six minutes; from 16 to 23 years the average time increased to seven minutes; and later decreased to 5.5 minutes after 24 years of practice. The overall average was 6.3 minutes. Average procedure time by specialty is shown in Figure 46. Prosthodontists spent the most time per procedure (7.9 and 7.8 minutes for removable prosthodontists and fixed prosthodontists, respectively); next were periodontists with 7.4 minutes. Specialties which spent the least time per procedure were orthodontists (5.0) pedodontists (5.5), oral surgeons (5.8) and general dentistry specialists who spent and average of 5.9 minutes per procedure. Generally, when performance times for specialty procedures by specialists were compared to both categories of general dentists, specialists were faster. The exception was oral diagnosis where oral medicine specialists and oral pathologists took more time to do oral examinations. General dentists' and specialists' times to perform selected procedures are shown in Table 9. The coefficients of variation associated with the procedure times averaged 105% (2.9% - 435.8% range [Table 10]).

DISCUSSION

The data presented do not account for the dentists' total time but rather are the sum of procedure times or "hands-on-treatment time" only. Since the study was conducted during one month rather than the entire year, a secular bias was introduced. May is a month when many dental officers are preparing for a change of duty station and attempting to complete treatment on their patients. An additional distortion was introduced in that, at times, there were only one or two specialists in a particular year group.

Although a record was made of the dentists' perceived procedure difficulty and the amount of ancillary support provided at each procedure, the summary data presented do not take into account these two variables. Not all dentists had the same level of ancillary support or the same access to multiple operatories. A greater level of ancillary support and more operatories allow dentists to do more. A particular procedure may vary in degree of difficulty and a harder procedure takes longer. Estimates of the difficulty of a procedure are largely subjective and depend to a great extent on the skill level of treating dentist. Caution dictates that more difficult cases are treated by specialists. In addition, time intervals for procedures were not adjusted for repeated procedures. A procedure which is repeated would normally take less time since the provider increases his speed doing repetitive tasks. Neglecting the analysis of these variables tends to introduce a greater variation in time recording. This is demonstrated by the large coefficients of variation associated withprocedure times whichaveraged 105%.

A loss of approximately 12% of the procedure data was encountered when patient encounter data were merged with Survey data. If the procedure loss was distributed in a random manner it would have little effect on the proportions in the descriptive statistics. For this reason, the report examined relationships between groups in their profiles of dental practice.

General procedures and diagnostic procedures for all dentists totaled 37%. In accounting terms these two categories would be considered overhead, or the time cost of making ready to provide treatment. The least amount of time recorded for all dentists was for fixed prosthetics and orthodontics.

A comparison of the general dentist and general dentistry specialist shows that the general dentistry specialist spent more time in diagnosis. Since much of the residency training he receives is in oral diagnosis, it follows that he might place greater emphasis on a through history and examination in treatment planning his patients. Also by virtue of his training, the general dentistry specialist is sent the more difficult cases at the initial dental triage. Although the general dentistry specialist does slightly more prosthetics than the general dentist, a proportionately greater time is not similarly spent in endodontics, periodontics, or surgery. This would indicate there is less need for the general dentistry specialist to fill the role of a surrogate specialist in these fields.

In the comparison of periodontists' and endodontists' time it can be seen that the proportion of a specialist's time depends on the treatment modality characteristics which distinguish that

specialty. Periodontists spent more time in prevention because good patient oral hygiene plays an immediate role in the success of periodontal treatment. Also, there is a continuity between periodontal surgery and oral surgery procedures so periodontists spent more time doing oral surgery. Generally, an endodontically treated tooth needs a restoration, so endodontists spent more time doing restorations.

The fact that removable prosthodontists spent more time in diagnosis and general procedures than fixed prosthodontists may be due to a greater dependence on patient compliance for successful outcome of treatment. More than most other patients, denture patients have to learn to tolerate and care for their removable appliances so patient compliance may be a greater factor in the success of removable prosthetics. It follows that where patient selection, education, and motivation are essential treatment elements, a greater proportion of the provider's time will be spent in diagnosis and general procedures. A large proportion of time spent in general procedures by both types of prosthodontists is mandated by an accounting system which gives credit for prosthetic appliances and restorations only at insertion. In order to account for interim pre- or post-treatment time, general procedures, such as post operative treatment, dental cast, or diagnostic mounting procedures are taken. Fixed prosthodontists spent more time doing restorative and periodontal procedures since both of these treatment modalities are prerequisites for successful fixed prosthetic treatment.

At least half of adjunctive general procedures, such as hospital ward rounds and cellulitis treatment, are more related to what an oral surgeon does than to any other specialty. So it is not surprising that a large proportion of time (39%) was spent in general procedures.

Unlike other specialties, pedodontists do not have a specialty-unique procedure category, so their time was divided between other specialty procedure categories. Pedodontists spent a greater proportion of time in preventive related activities than all other specialists which may indicate either a greater emphasis on prevention for the child dental patient or a greater need by children for preventive procedures. Pedodontic practice has been characterized as general practice on children. However, a comparison with that of general dentists reveals that the practice patterns are different. Besides the large proportion of time spent in prevention, the most apparent differences are the lesser amount of time given to restoring teeth and the greater amount of time spent doing orthodontic procedures. It is noteworthy that general procedure time, which includes patient handling, part of which is dealing with behavioral problems, was similar for both pedodontists and general dentists.

The fact that orthodontics accounts for 56% of orthodontist's time and the fact that most other specialists do not spent time in orthodontics, indicates either that orthodontic treatment has less dependence on other specialties for a successful outcome or that the treatment plan has specified that patients' other dental needs have been met prior to initiating orthodontic treatment.

Since general dentists comprise the largest group, they accounted for the greatest amount of time spent in most procedure categories, however, specialists accounted for a greater amount of time doing difficult procedures; e.g., molar root canal treatment, surgical periodontics, impactions, space maintainers and banding procedures.

Fixed prosthodontists achieved the highest productivity measured in both WWUs and "dollar" value. The fact that other specialists would have had to increase their weighted work units by an average of 38% (1.38 times) and their "dollar" output by 88% (1.88 times) to equal that of fixed prosthodontists, indicates an apparent inconsistency in the dollar weighting process. It would appear that WWUs are a less distorting measure of productivity.

Commanders and clinic chiefs are only slightly less productive than other specialists. Board eligible specialists were generally more productive than board certified specialists. In five of the specialties mentors produced less than non-mentors, while in three specialties they produced more.

In general, active duty personnel made up the largest proportion of patients treated and accounted for most treatment time within each specialty category. The exceptions were removable prosthodontists who spent more time with retirees, but treated more soldiers; pedodontists and orthodontists who treated mostly children; and oral pathologists who treated almost an equal number of retirees, dependents, and active duty soldiers.

Average procedure times by years of practice showed some increase after the 15th year and a decrease after the 23rd year. This difference could be due both to differences in practice experience as well differences in mix of treatment procedures within each year group. Differences in average procedure time by specialty reflected the fact that removable prosthetic procedures take more time and that orthodontic procedures take less time than other specialty procedures. Specialists generally were faster doing specialty procedures with the exception of oral diagnosis.

Several points need to be stressed in the interpretation of the procedure time data. The first is that it is difficult to assess how accurate they are. Although instruction was given to participants that times were to be recorded at the end of each patient encounter, there are anecdotal reports of participants estimating the times at the end of the day. The practice of retrospective estimation could account, in part, for the large variations in the reported procedure times. In addition, procedure times are sensitive to other factors such as the difficulty of the procedure, number of repetitions, the level of ancillary support and the experience of the dentist. Only a multivariate analysis, incorporating these variables and interactions among variables, and weighting their effects, at a minimum, could possibly make sufficient adjustment to make the procedure times comparable.

RECOMMENDATIONS

1. The Survey of Army Dental Practice provides valuable information on demographics of the Dental Corps. A survey of this type should be repeated, either on an regular or on an as needed basis.

2. Practice profile information obtained in the current study provides useful management information on procedure practice and patient category mix of each dental specialty. These data should be made available to dental managers for personnel and facilities planning.

3. Procedure time intervals collected within this study were subject to great variation. Post-treatment self reporting of time intervals, differences in experience and training, differences in level of ancillary support, and lack of an objective measure of procedure severity were possible sources of variation. Studies on dental procedure times need to minimize these confounding variables either directly, or if possible, factor out their effects to allow comparisons. A similiar management study on procedure times should be done when a non-invasive real-time procedure reporting system, utilizing direct computer data entry (voice, touch screen, etc.), is available. This will eliminate retrospective procedure time estimation.

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2. Schumaker, C.J. Selected Measures of Dentists' Productivity: Self-reported. Health Studies Task Force Report, Washington DC, Office of the Assistant Secretary of Defense (Health Affairs), 1979.

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4. Memorandum for the Assistant Surgeon General, Chief, Army Dental Corps. Subject: Availability of Treatment for Dental Crops Officers. 17 April 1985.

5. House, D.R. Occupational choice and labor supply decisions: the case of the licensed dentist. In Brown, L.J, and Winslow, J.E. Proceedings of a Conference on Modeling Techniques and Applications in Dentistry. Washington D.C., U.S. Department of Health and Human Services, DHHS Publication NO. (HRA) 81-8, 1981.

6. Uniform Chart Of Accounts For Fixed Military Medical And Dental Treatment Facilities (Change No. 4). Office of the Secretary of Defense, Assistant Secretary of Defense (Health Affairs). Department of Defense Publication System. June 17, 1983.

APPENDIX A

FIGURES

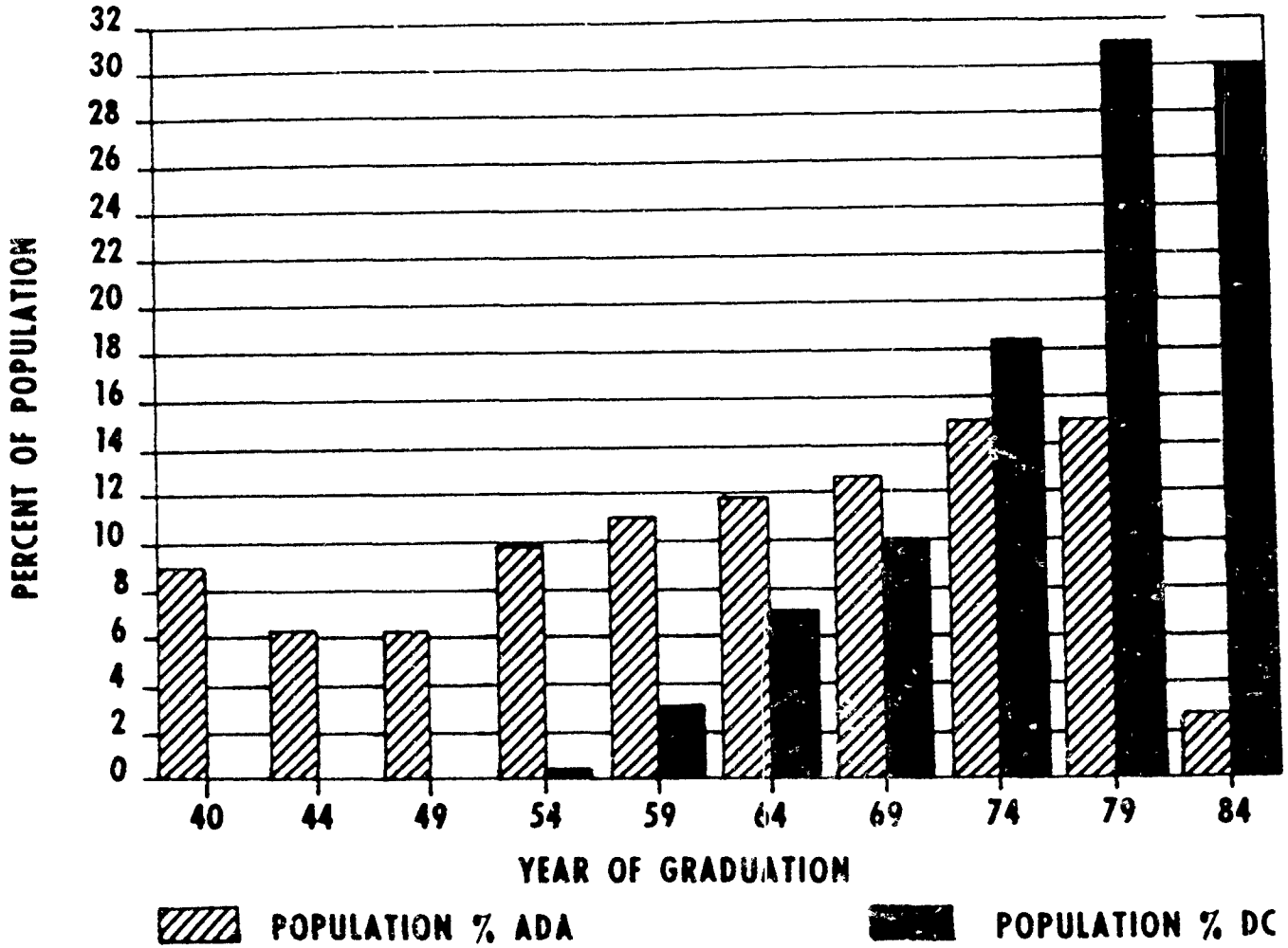

POPULATION % BY YEAR OF GRADUATION
PERCENT OF POPULATION
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
40
44
49
54
59
64
69
74
79
84
YEAR OF GRADUATION
POPULATION % ADA
POPULATION % DC

FIGURE 1

RESPONDENTS YEARS OF MILITARY PRACTICE

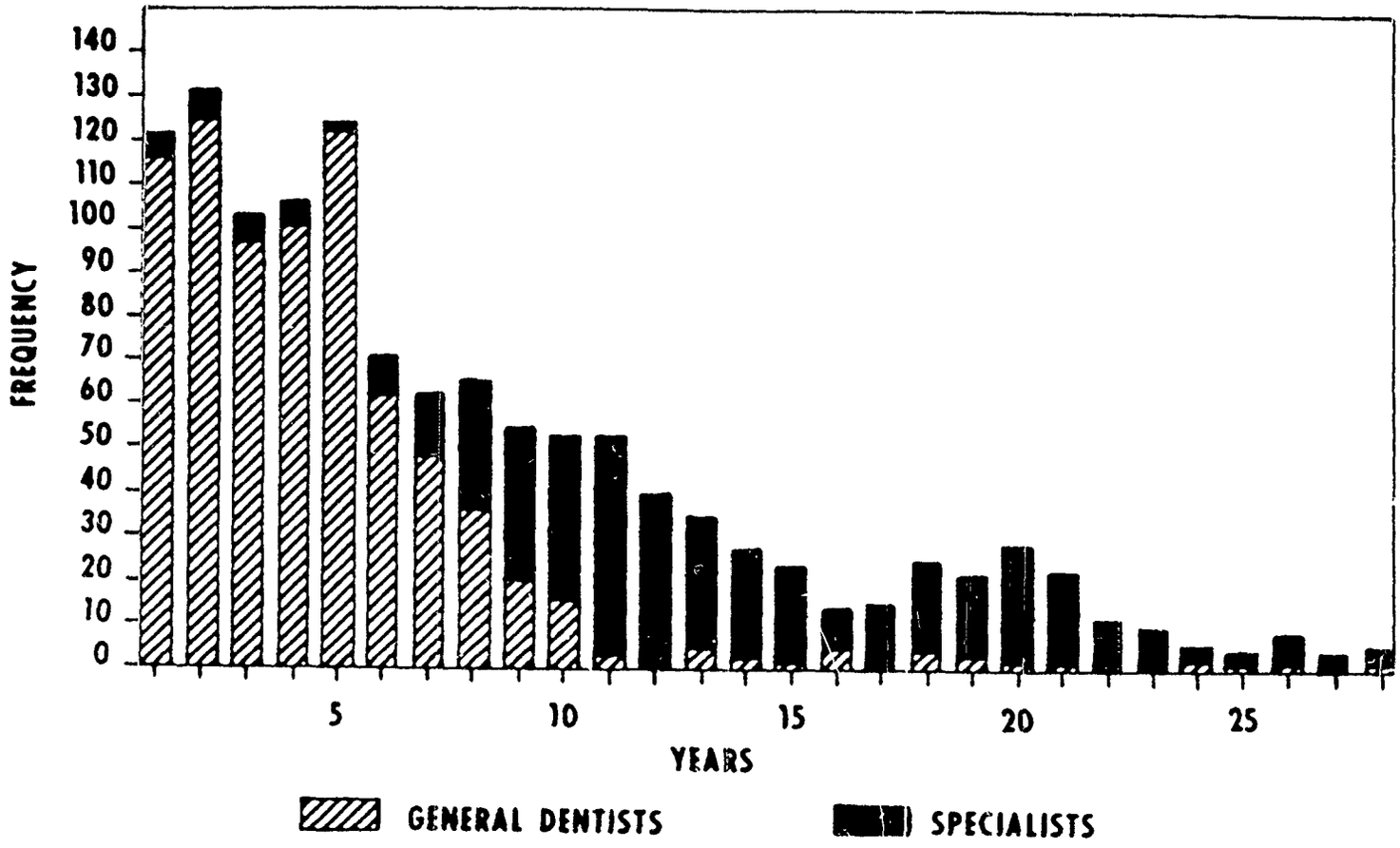


FIGURE 2

RESPONDENTS LEVEL OF TRAINING

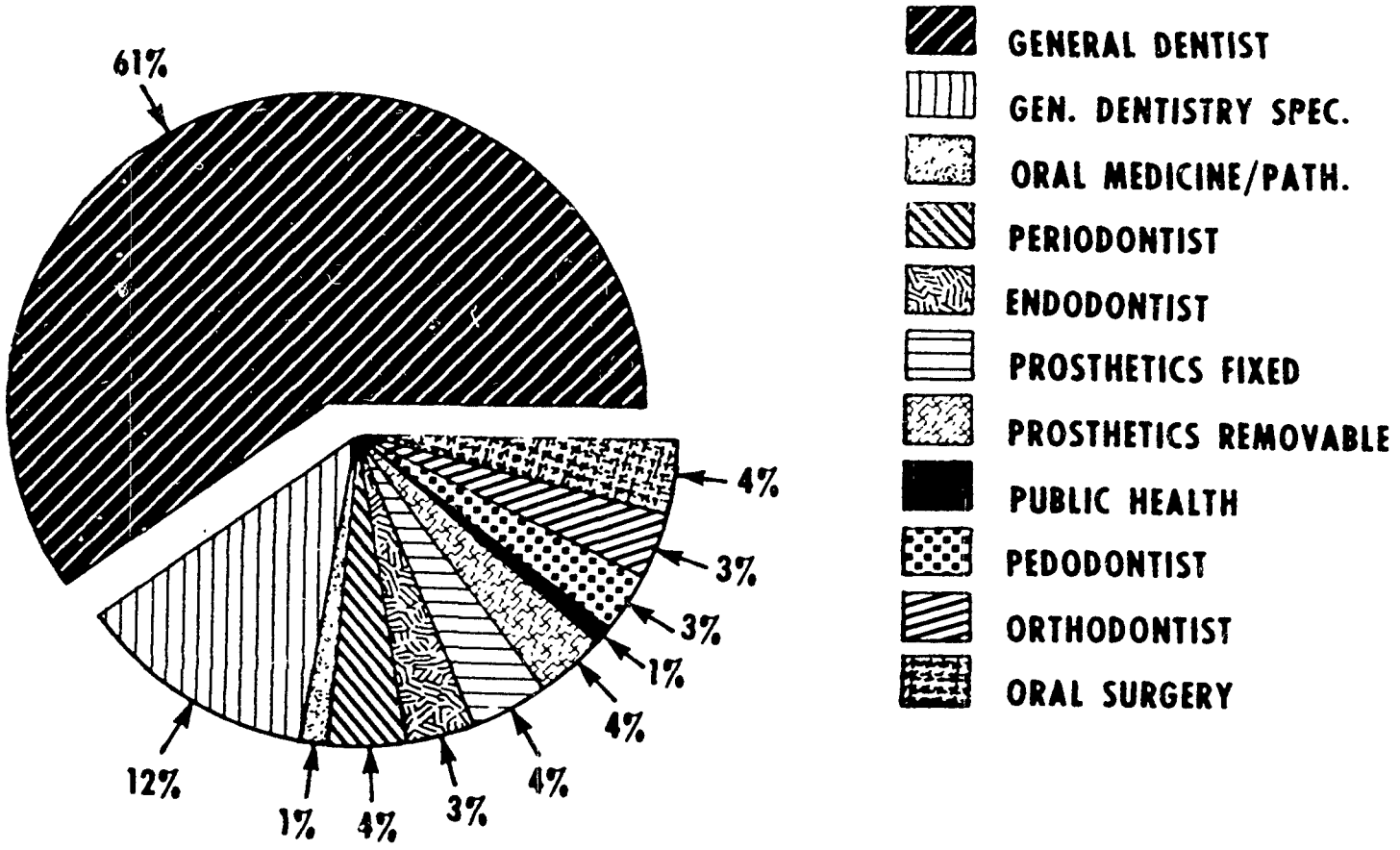


FIGURE 3

SKILL LEVELS OF ARMY DENTAL CORPS SPECIALISTS

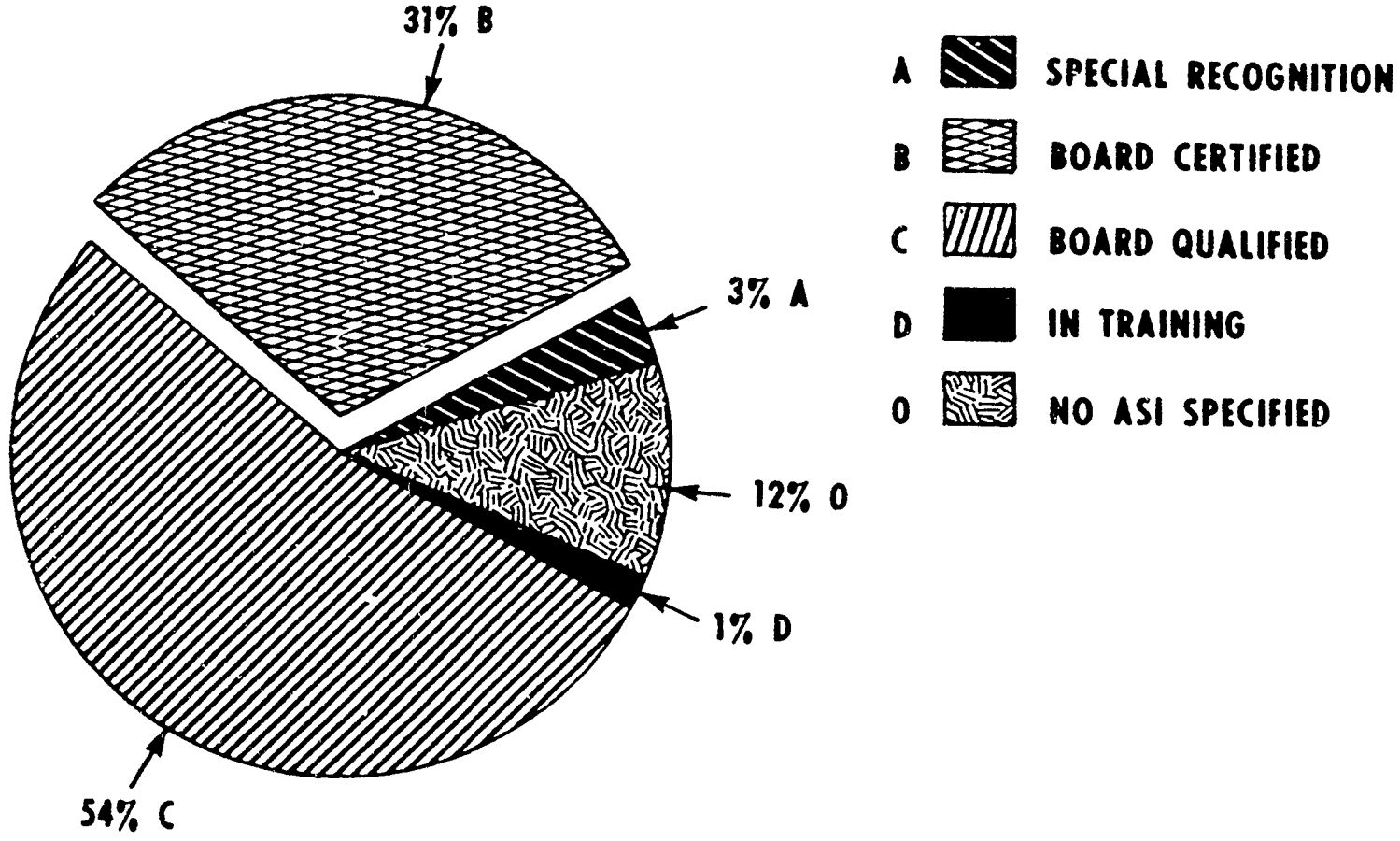


FIGURE 4

PROFESSIONAL ACTIVITIES OF GENERAL DENTISTS AND SPECIALISTS

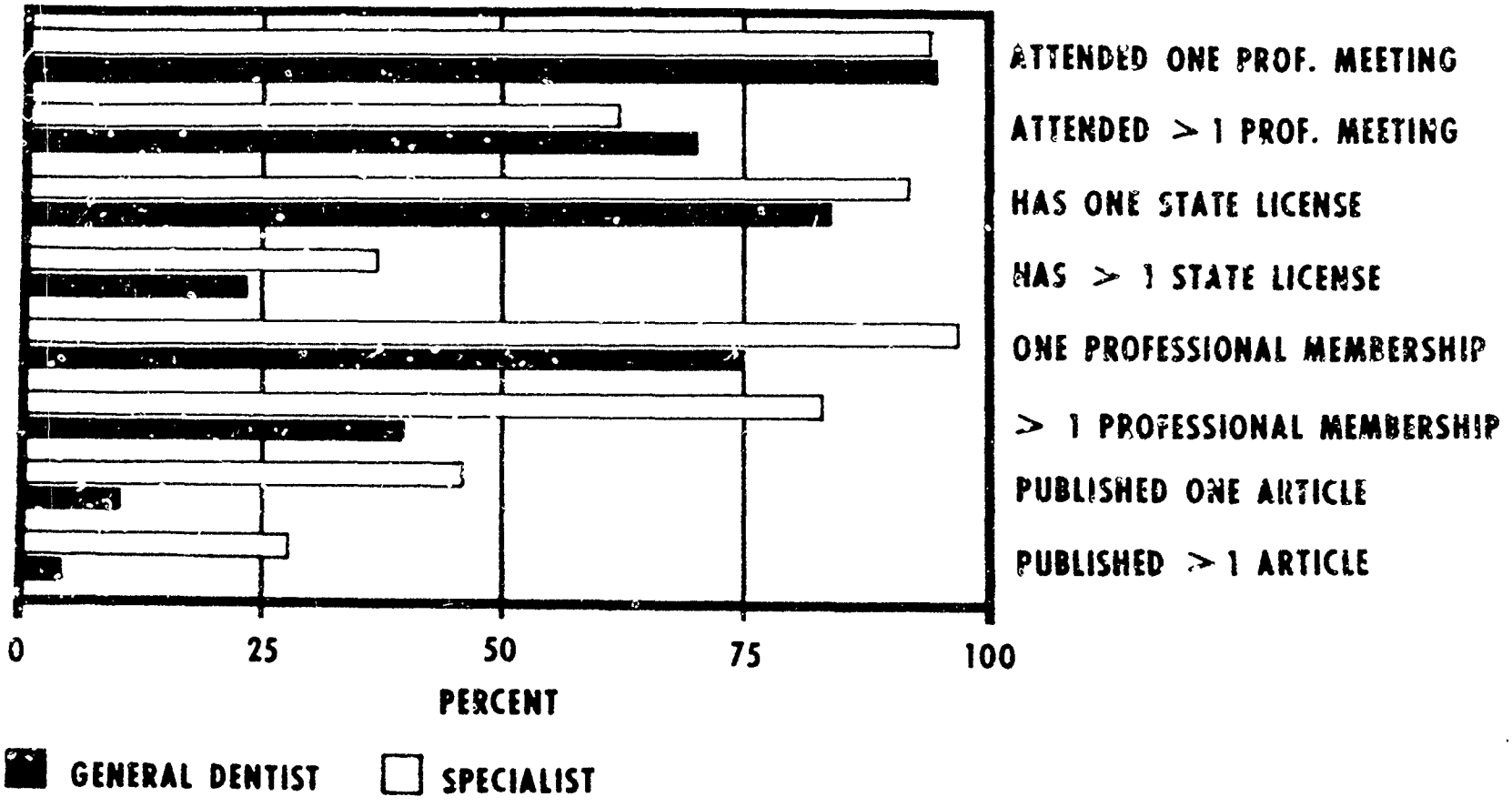
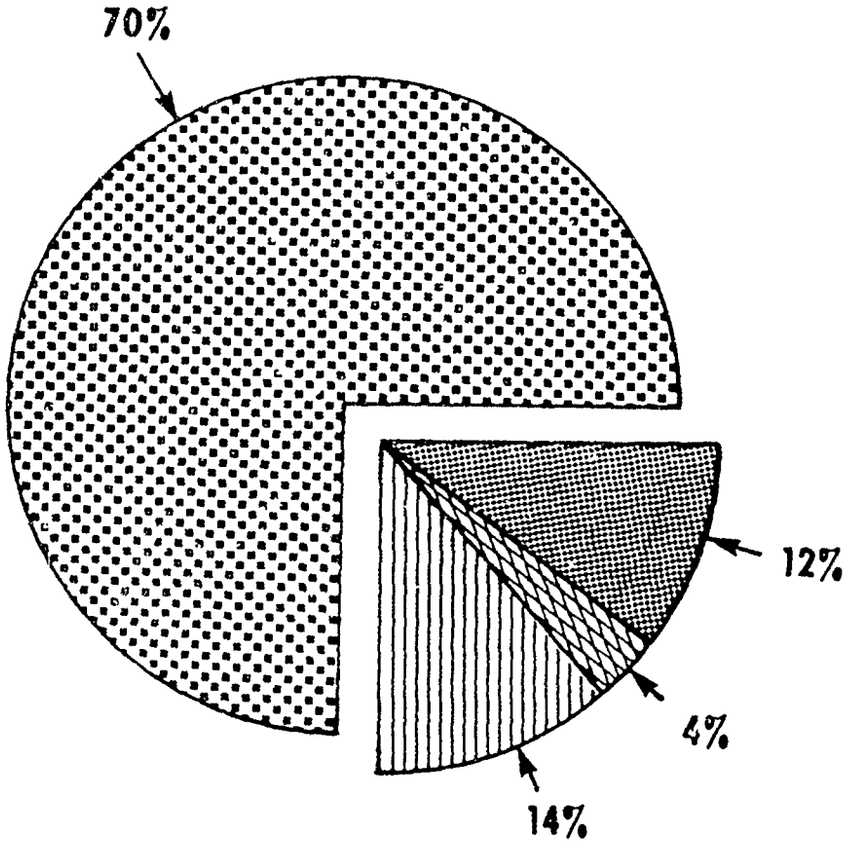


FIGURE 5

PRIMARY DUTIES OF RESPONDENTS



CLINICAL DENT.

CLINIC OIC

COMMANDER

OTHER - INCLUDES:
LABORATORY OFFICERS
ACADEMY INSTRUCTORS
RESEARCH OFFICERS
STAFF OFFICERS
OTHER DUTIES

FIGURE 6

FIGURE 7

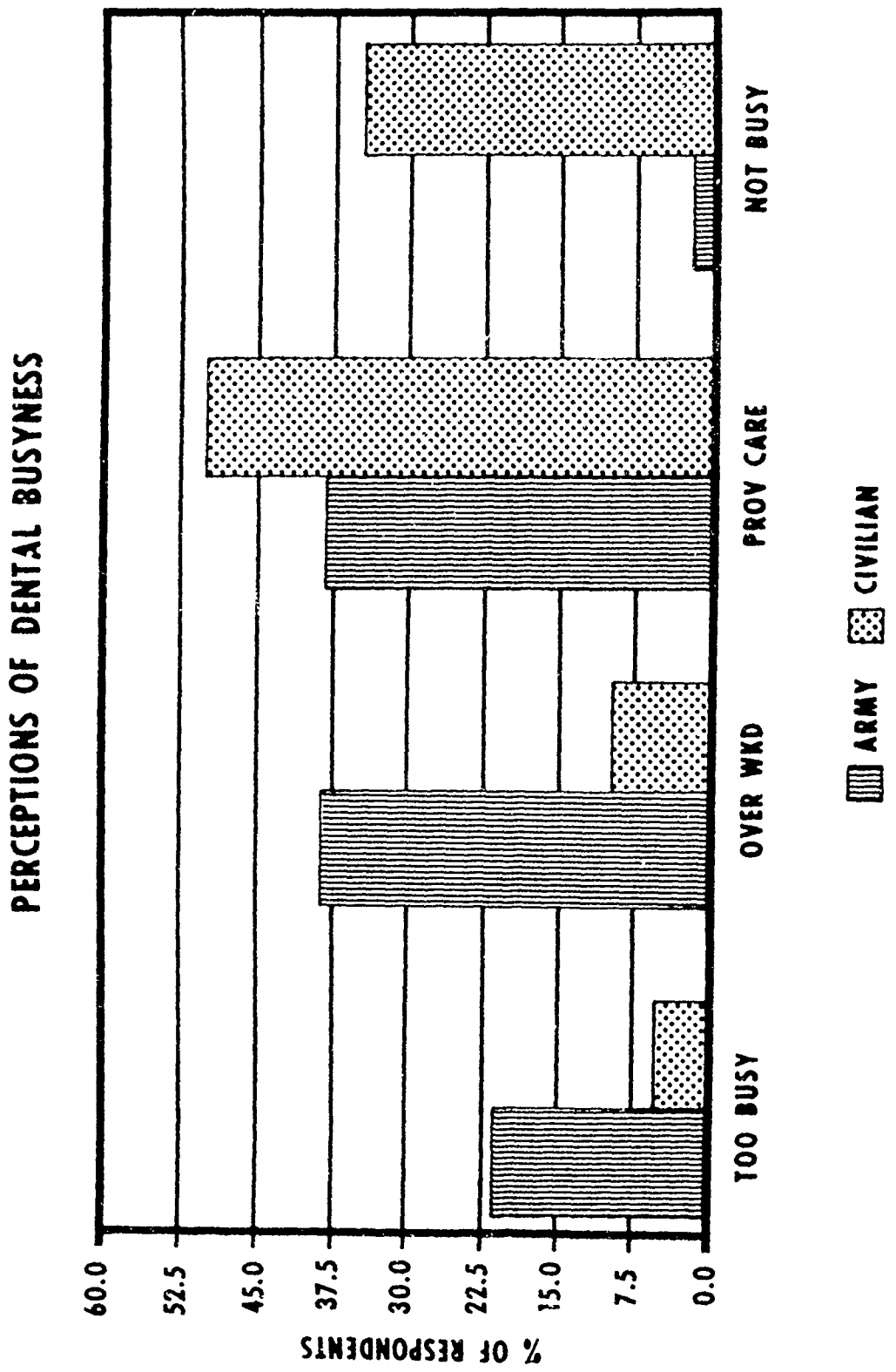

PERCEPTIONS OF DENTAL BUSYNESS
% OF RESPONDENTS
60.0
52.5
45.0
37.5
30.0
22.5
15.0
7.5
0.0
TOO BUSY
OVER WKD
PROV CARE
NOT BUSY
ARMY
CIVILIAN

FIGURE 8

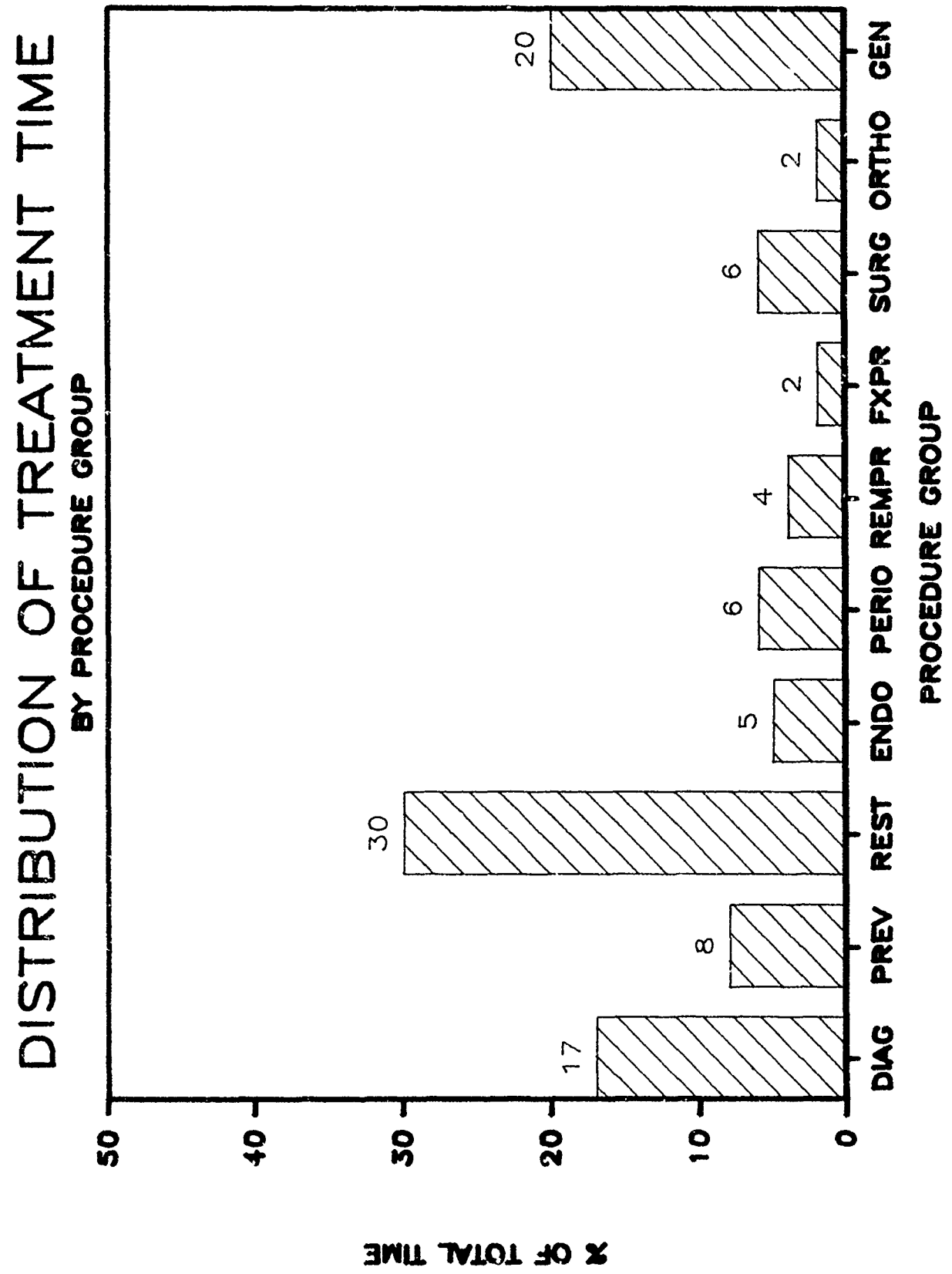

DISTRIBUTION OF TREATMENT TIME
BY PROCEDURE GROUP
% OF TOTAL TIME
0
10
20
30
40
50
17
8
30
5
6
4
2
6
2
20
DIAG
PREV
REST
ENDO
PERIO
REMPR
FXPR
SURG
ORTHO
GEN
PROCEDURE GROUP

FIGURE 9

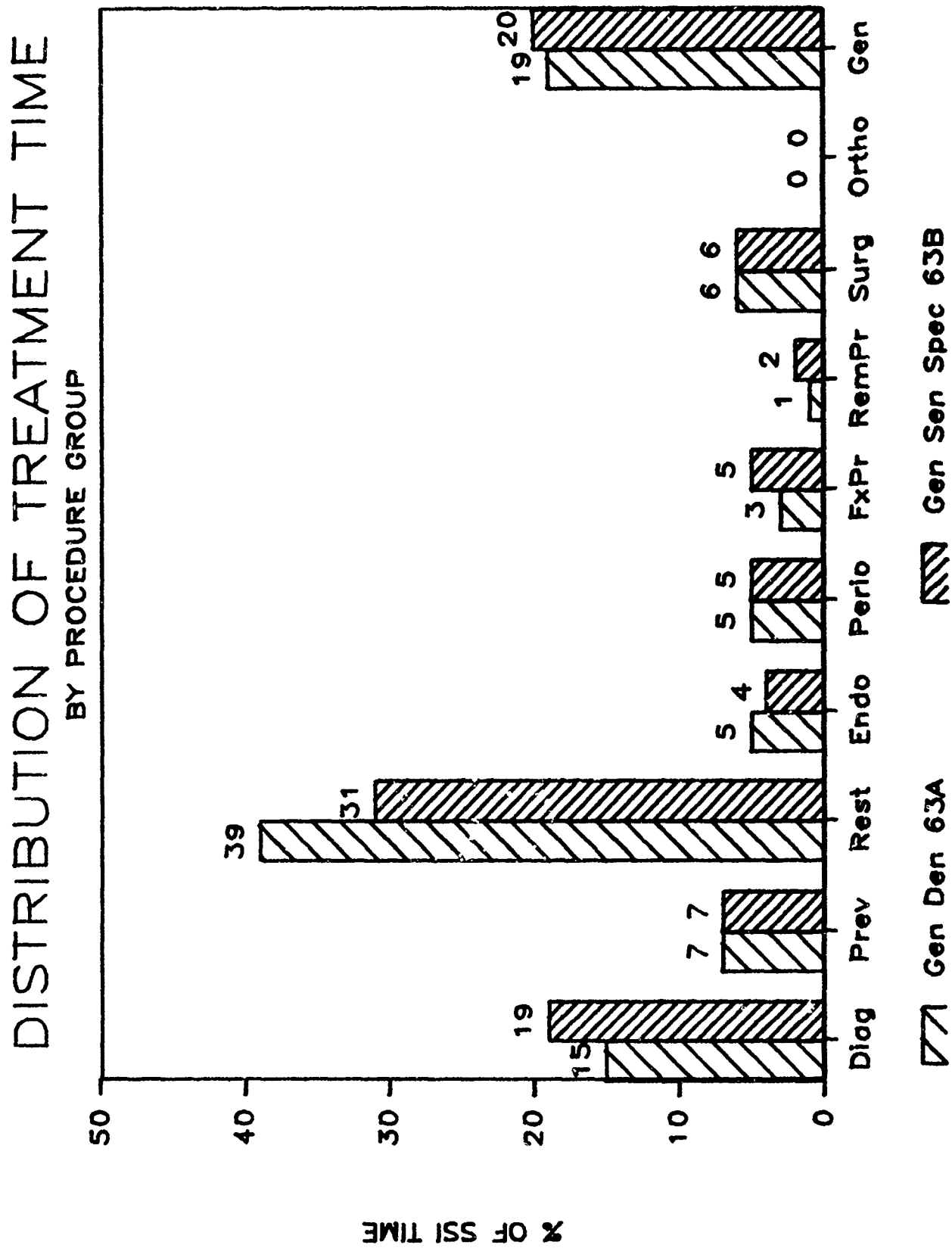
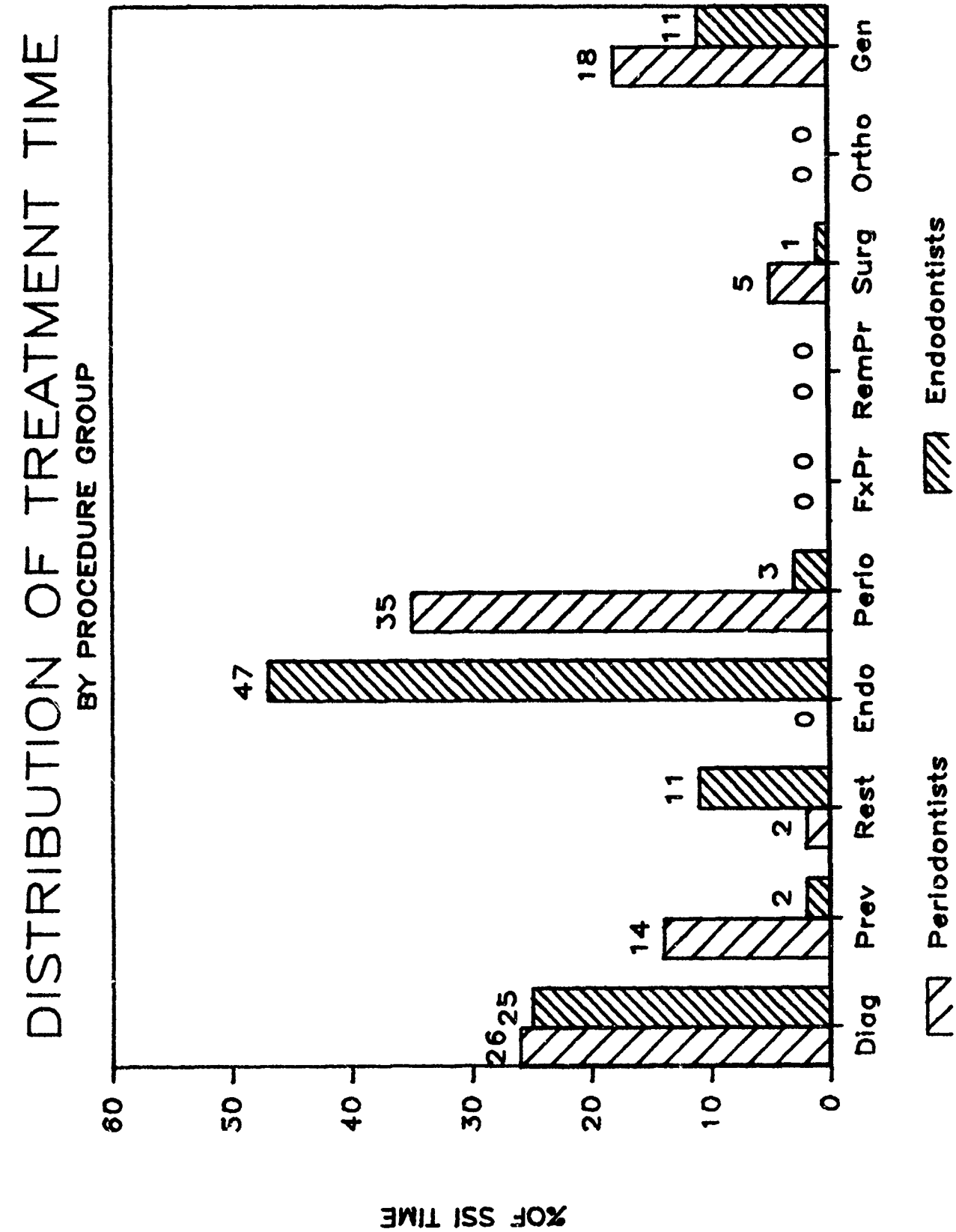

DISTRIBUTION OF TREATMENT TIME
BY PROCEDURE GROUP
% OF SSI TIME
0
10
20
30
40
50
Diag
Prev
Rest
Endo
Perio
FxPr
RemPr
Surg
Ortho
Gen
15
19
7
7
39
31
5
4
5
5
3
5
1
2
6
6
0
0
19
20
Gen Den 63A
Gen Sen Spec 63B

FIGURE 10


DISTRIBUTION OF TREATMENT TIME
BY PROCEDURE GROUP
%OF SSI TIME
60
50
40
30
20
10
0
26
25
14
2
2
11
47
0
35
3
0 0
0 0 0
5
1
18
11
0 0
Diag
Prev
Rest
Endo
Perio
FxPr
RemPr
Surg
Ortho
Gen
Periodontists
Endodontists

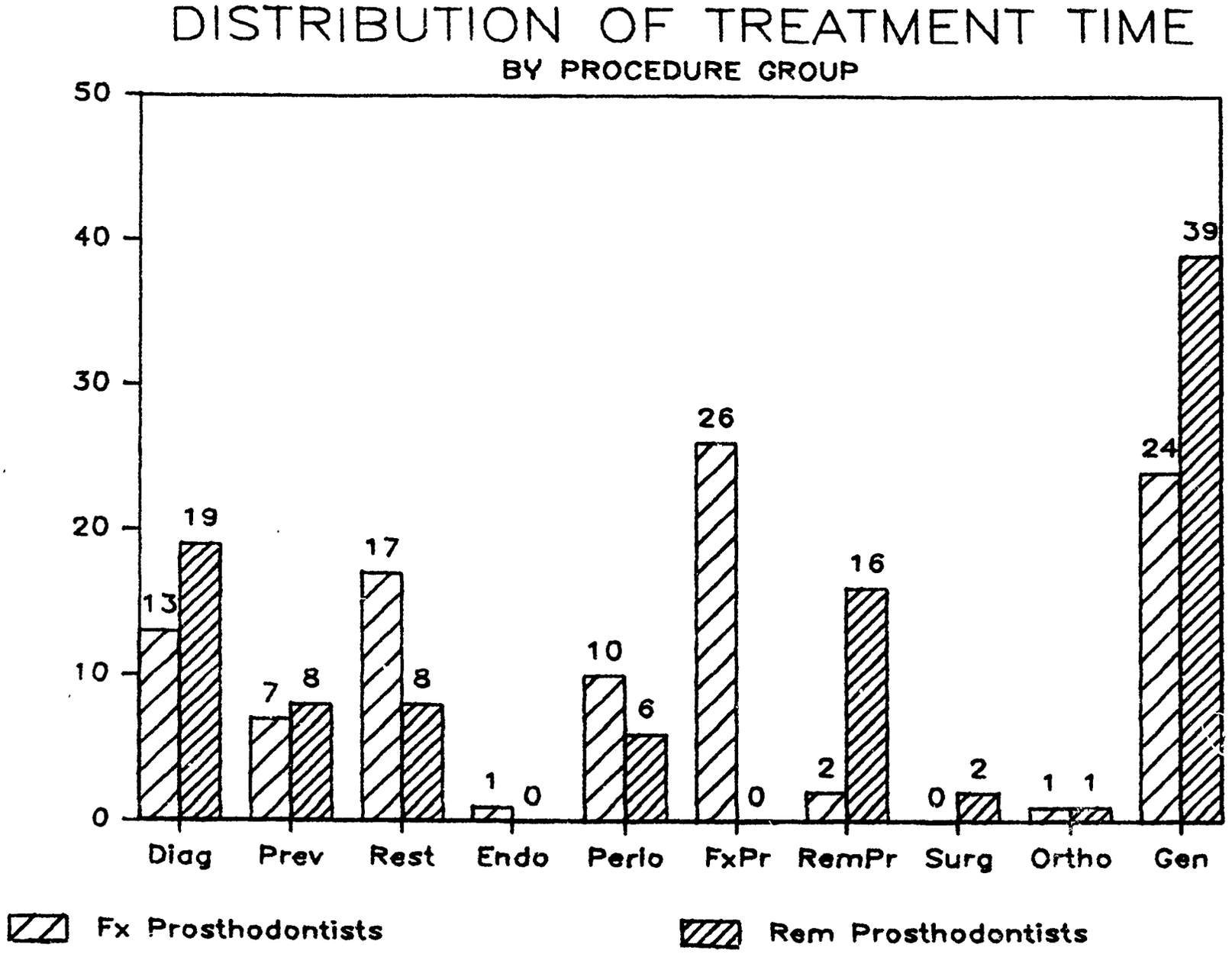

DISTRIBUTION OF TREATMENT TIME
BY PROCEDURE GROUP
% OF TIME
50
40
30
20
10
0
13
19
7
8
17
8
1
0
10
6
26
0
2
16
0
2
1
1
24
39
Diag
Prev
Rest
Endo
Perio
FxPr
RemPr
Surg
Ortho
Gen
Fx Prosthodontists
Rem Prosthodontists

FIGURE 11

DISTRIBUTION OF TREATMENT TIME

BY PROCEDURE GROUP

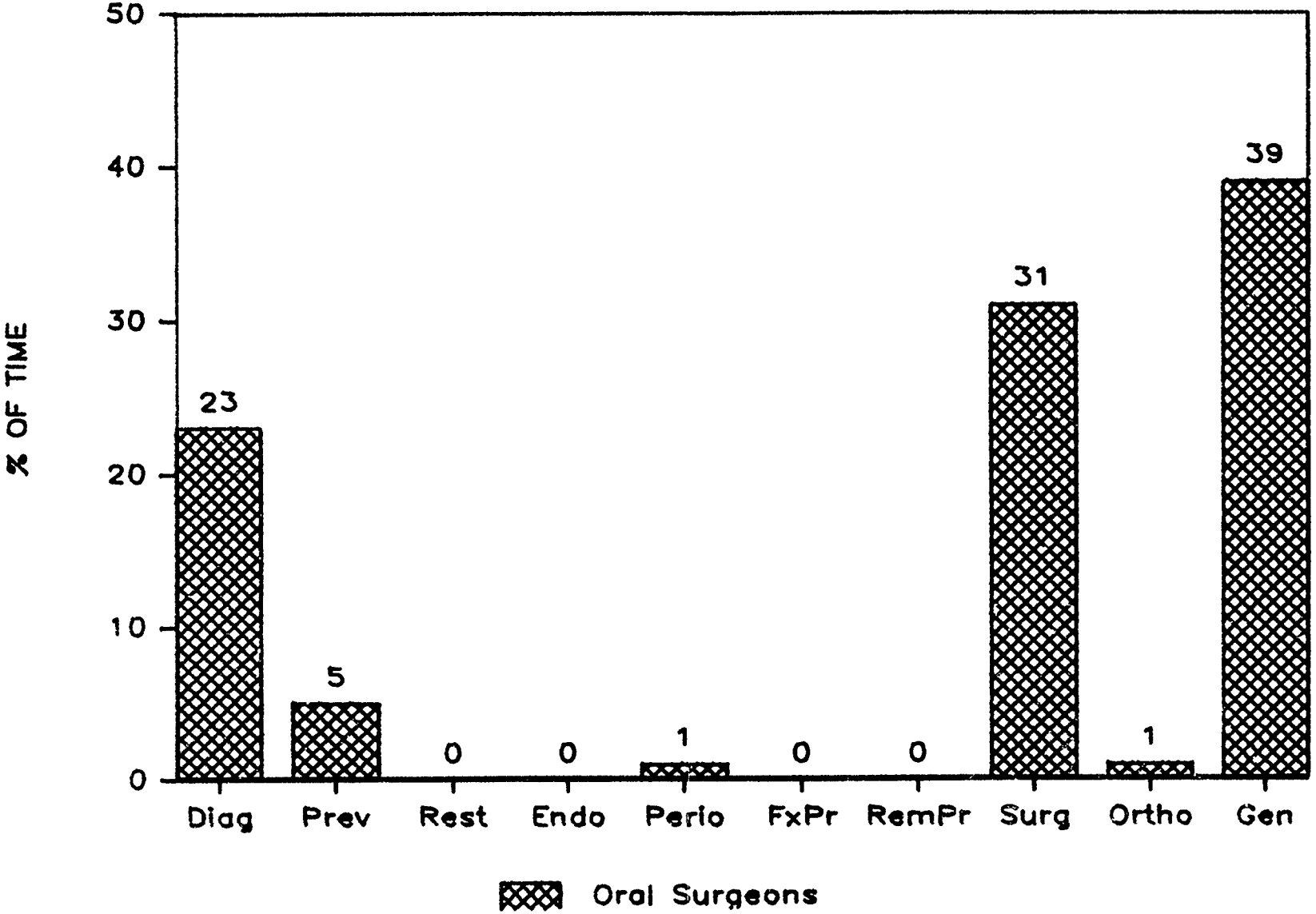


FIGURE 12

DISTRIBUTION OF TREATMENT TIME

BY PROCEDURE GROUP

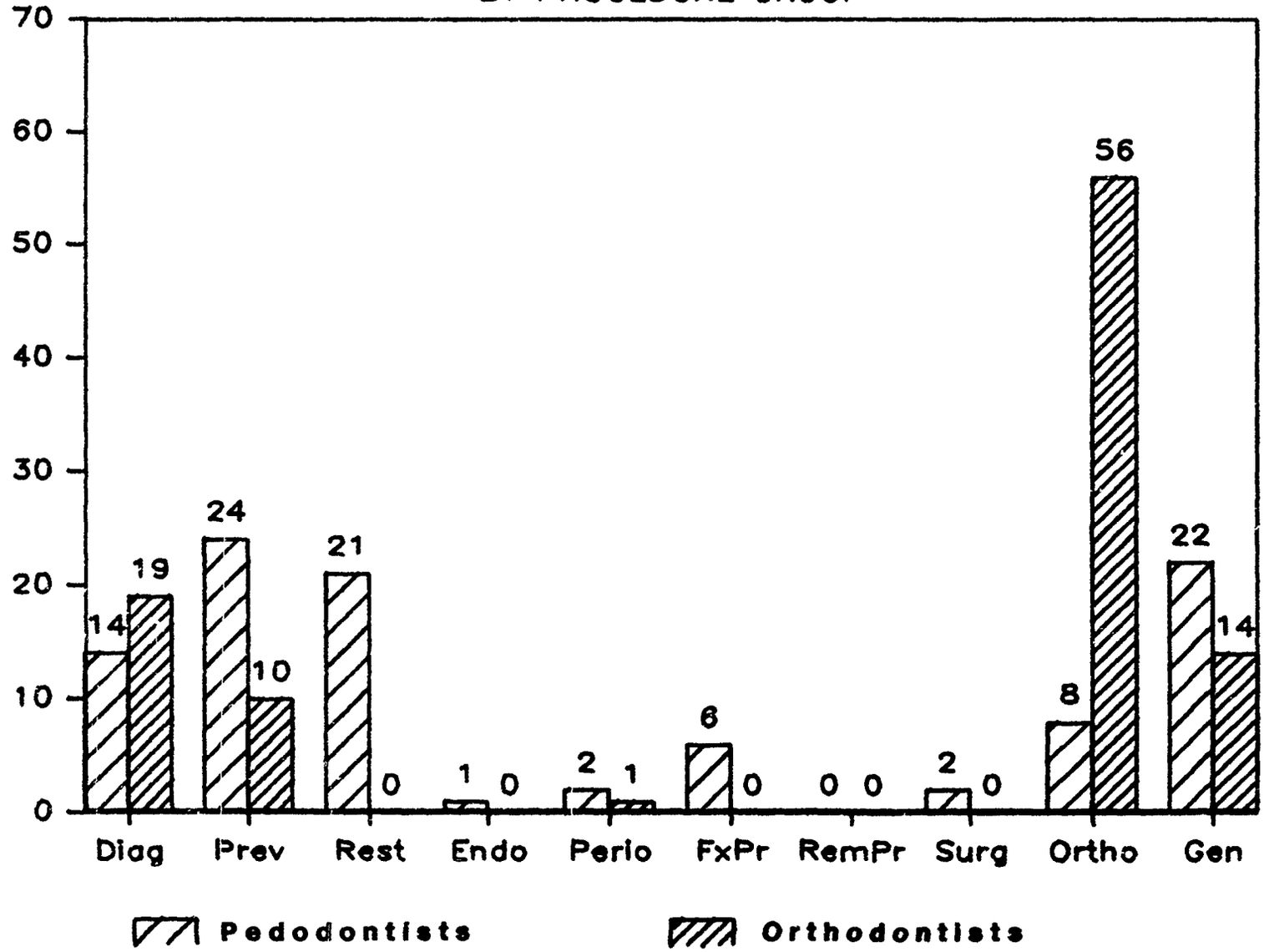
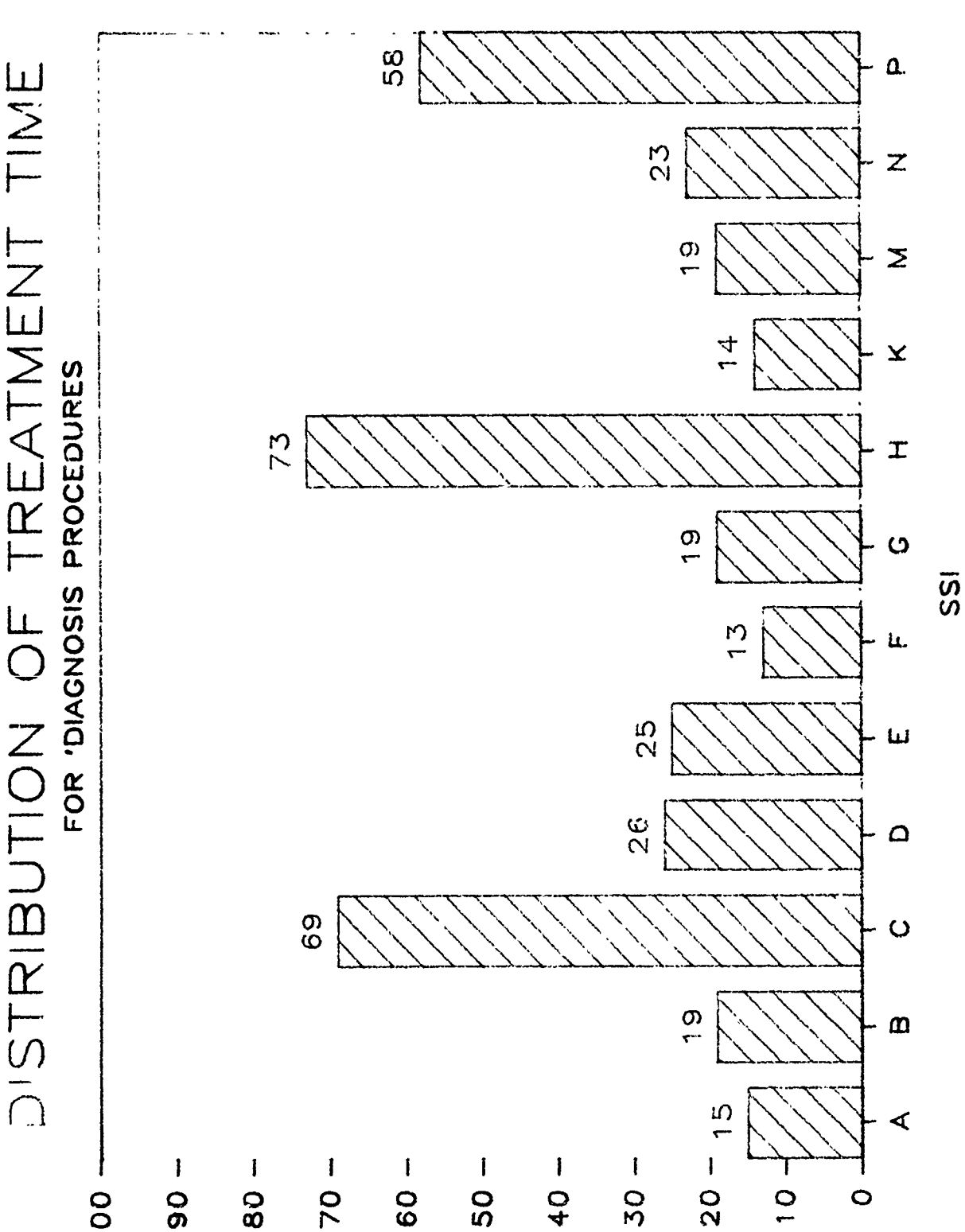


FIGURE 13

FIGURE 14


DISTRIBUTION OF TREATMENT TIME
FOR 'DIAGNOSIS PROCEDURES
% OF TOTAL TIME
100
90
80
70
60
50
40
30
20
10
0
15
19
69
26
25
13
19
73
14
19
23
58
A
B
C
D
E
F
G
H
K
M
N
P
SSI

DISTRIBUTION OF TREATMENT TIME

FOR 'PREVENTIVE' PROCEDURES

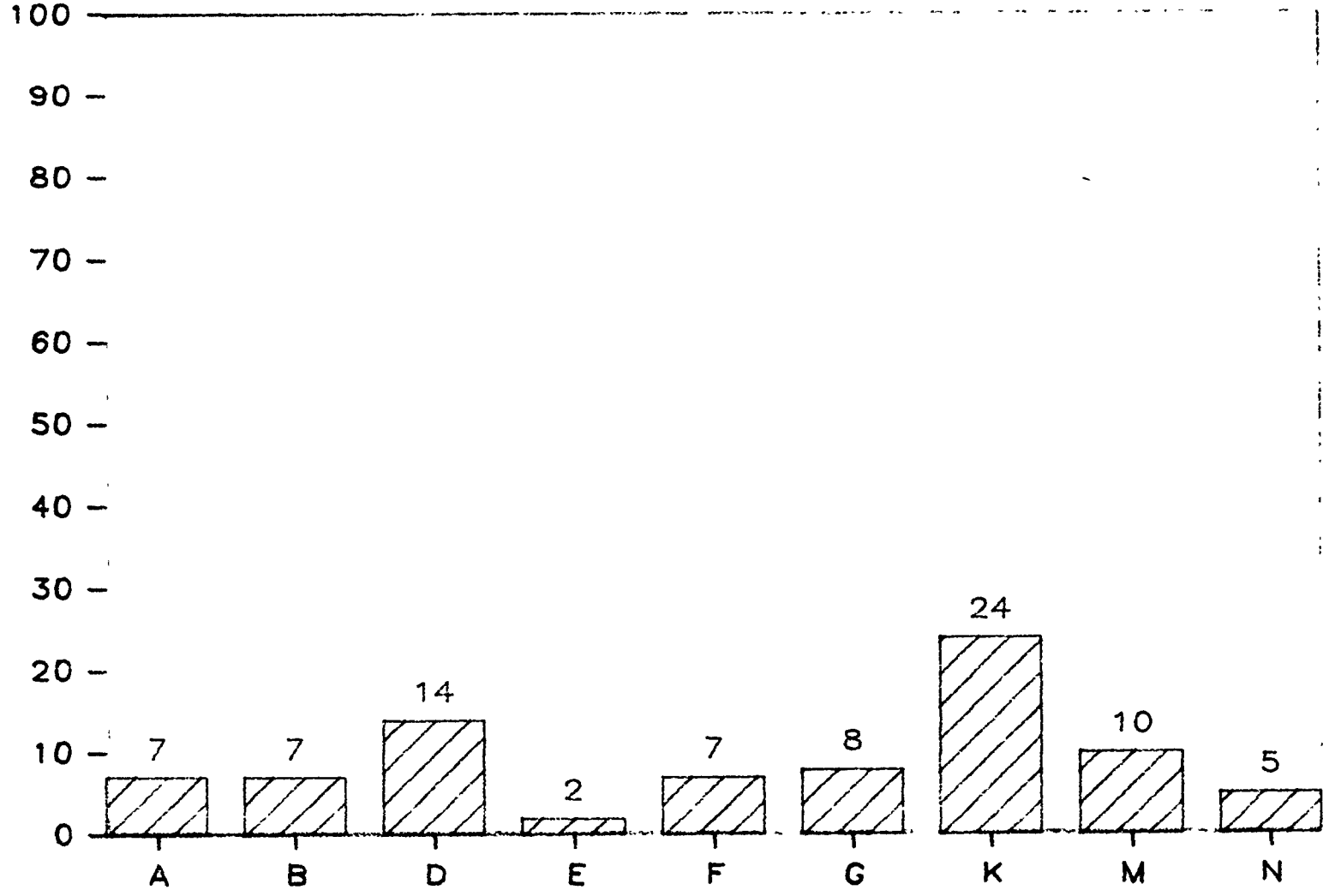


FIGURE 15

DISTRIBUTION OF TREATMENT TIME

FOR RESTORATIVE PROCEDURES

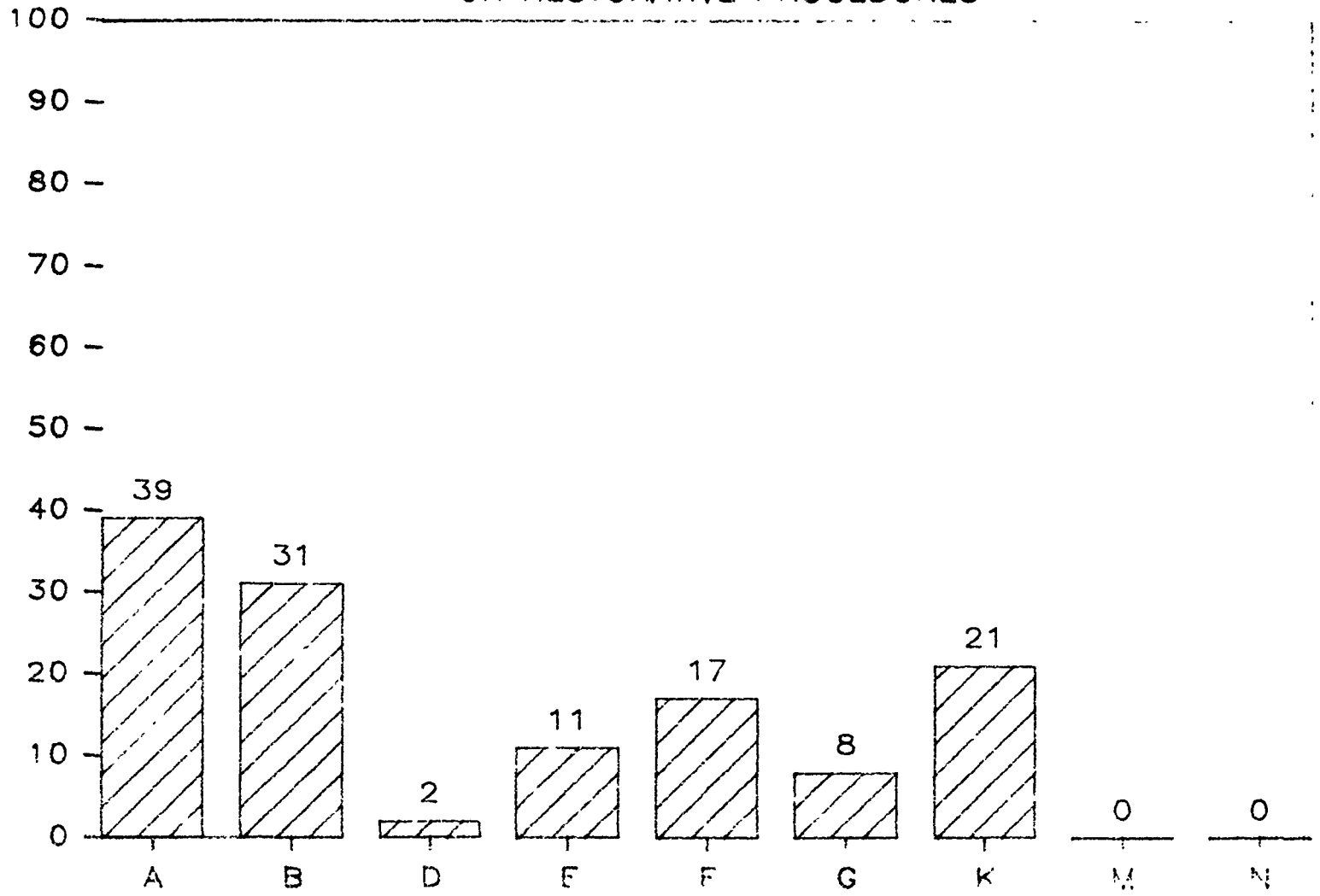


FIGURE 16

FIGURE 17

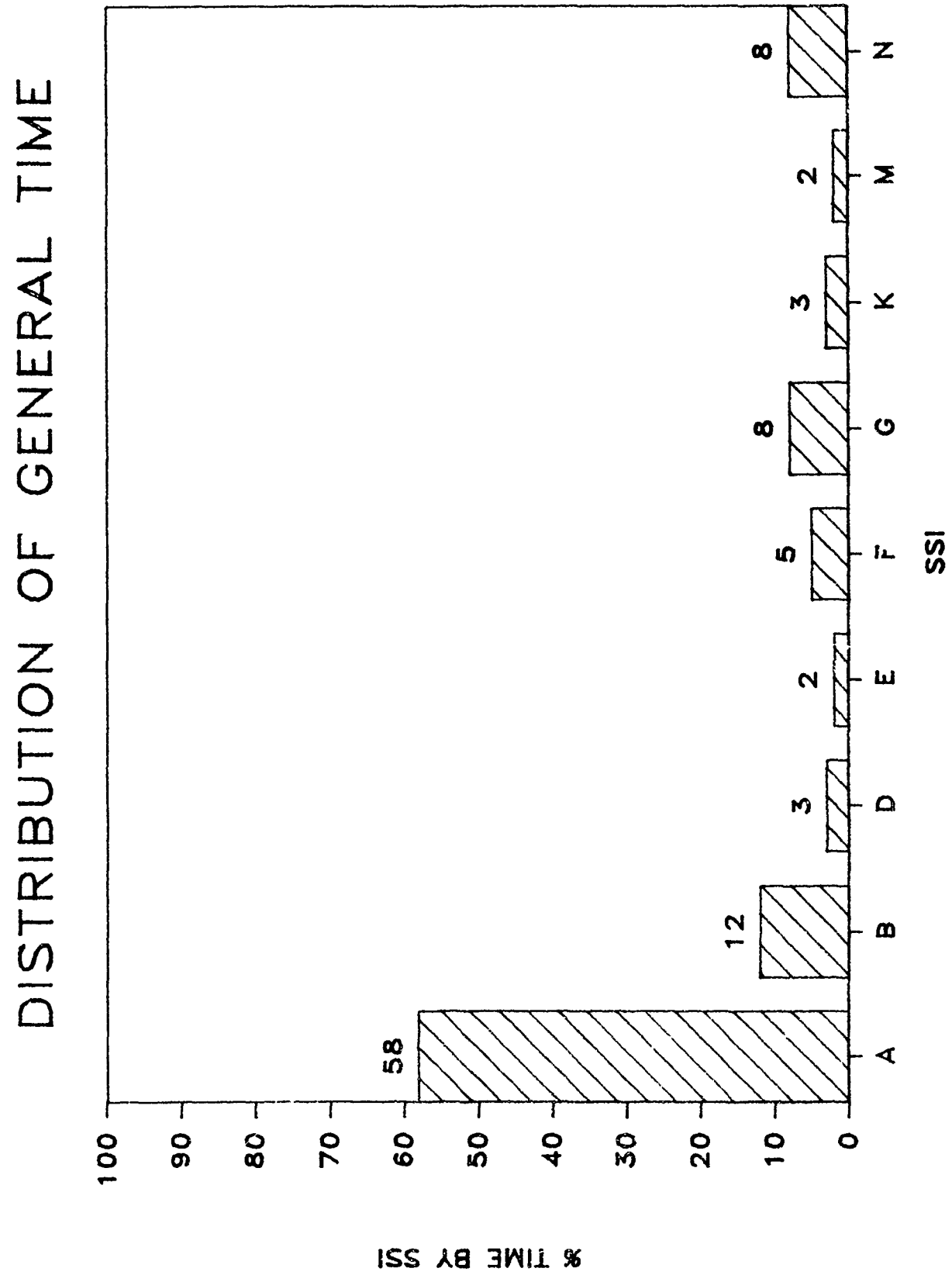

DISTRIBUTION OF GENERAL TIME
% TIME BY SSI
100
90
80
70
60
50
40
30
20
10
0
58
12
3
2
5
8
3
2
8
A
B
D
E
F
G
K
M
N
SSI

FIGURE 18

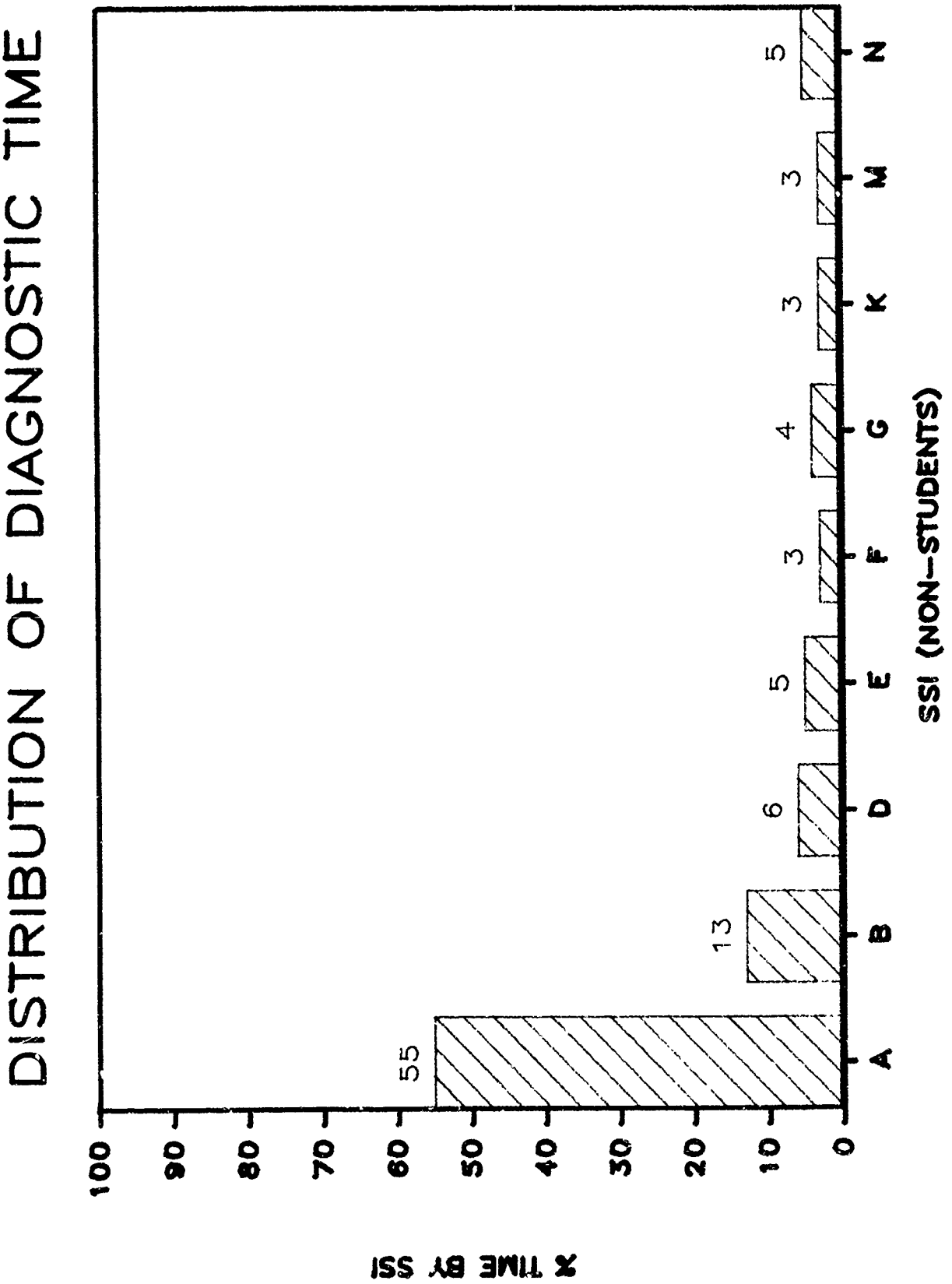

DISTRIBUTION OF DIAGNOSTIC TIME
% TIME BY SSI
100
90
80
70
60
50
40
30
20
10
0
55
13
6
5
3
4
3
3
5
A
B
D
E
F
G
K
M
N
SSI (NON-STUDENTS)

FIGURE 19

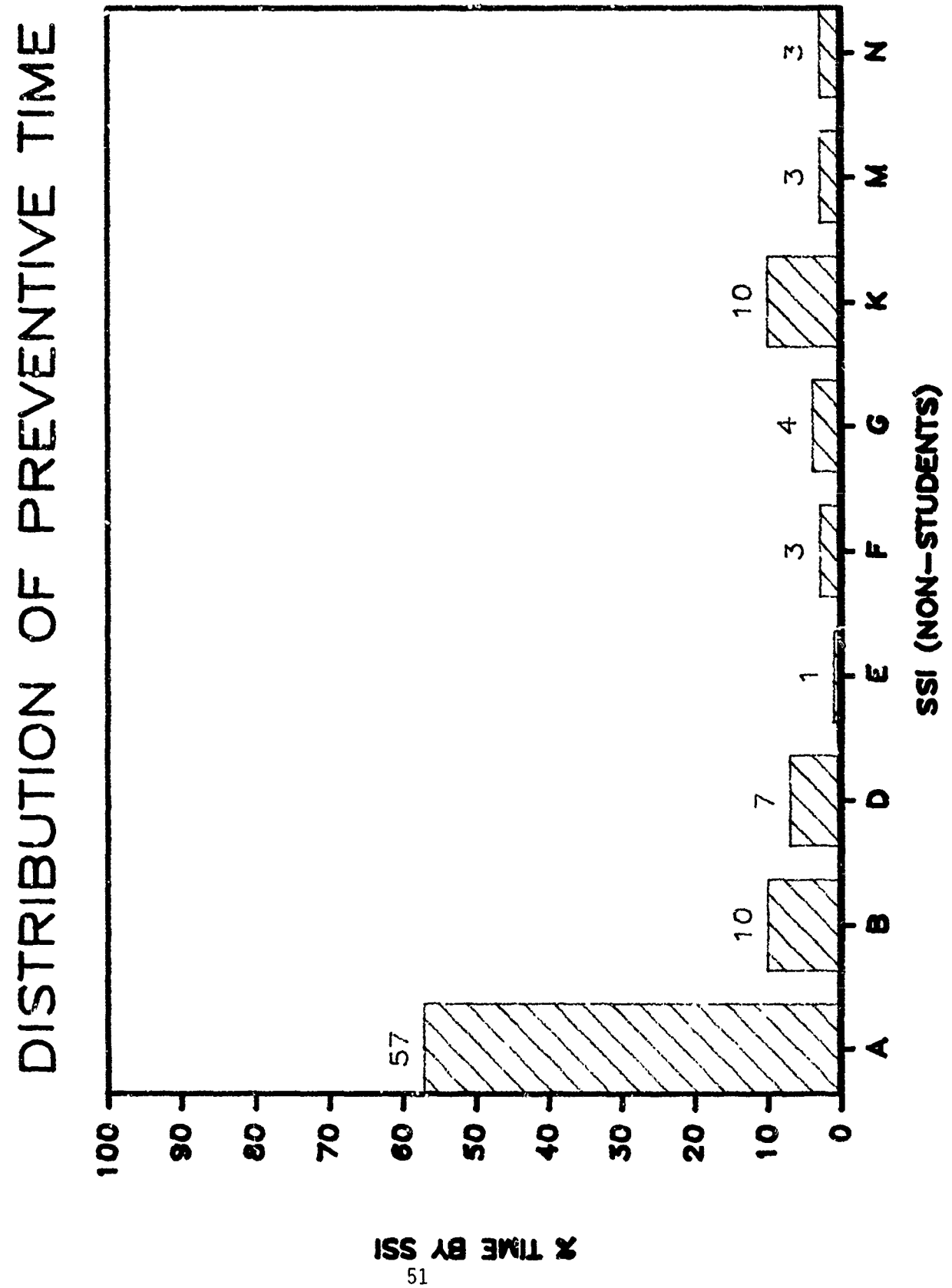
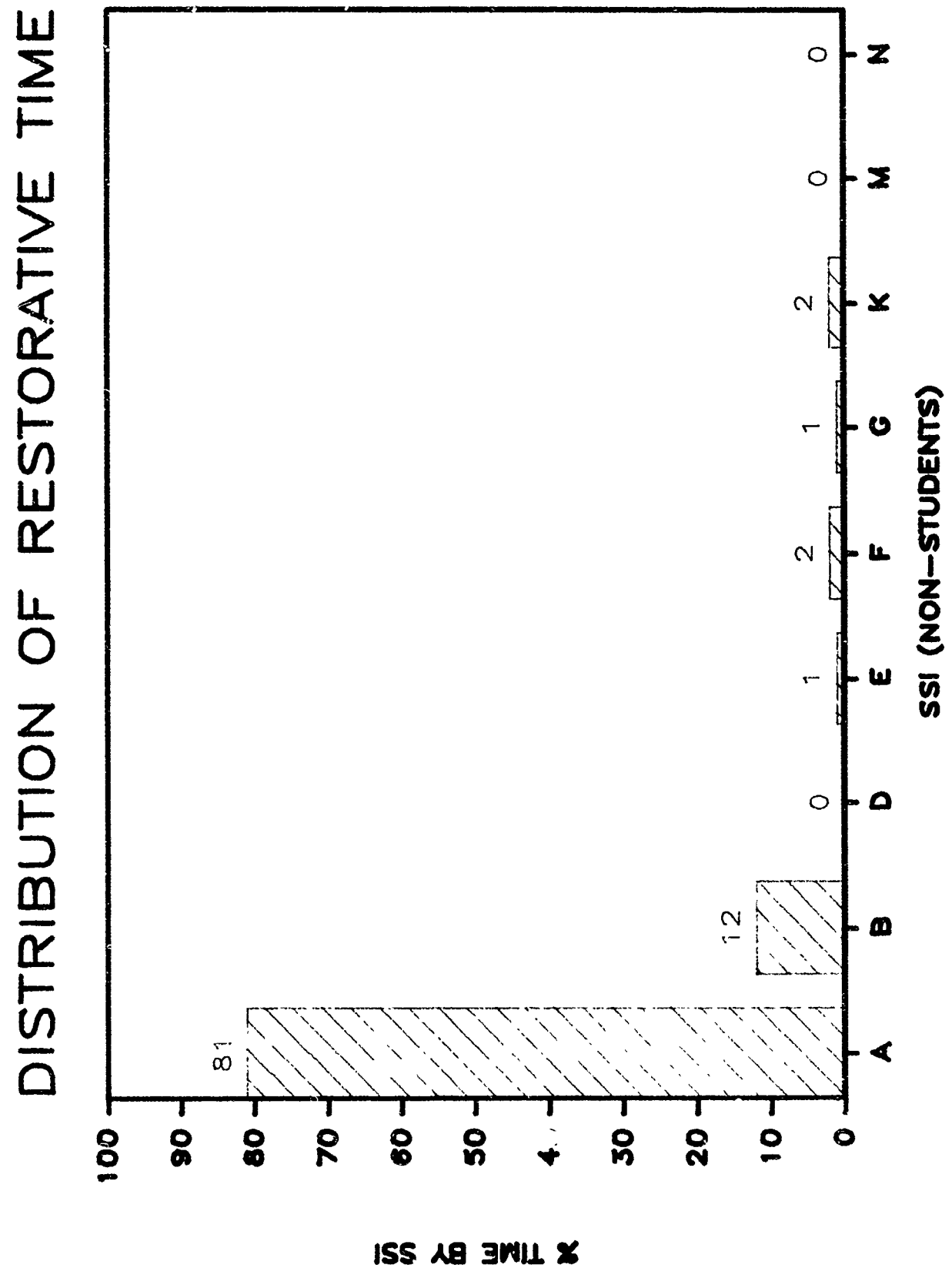

DISTRIBUTION OF PREVENTIVE TIME
% TIME BY SSI
100
90
80
70
60
50
40
30
20
10
0
57
10
7
1
3
4
10
3
3
A
B
D
E
F
G
K
M
N
SSI (NON-STUDENTS)

FIGURE 20


DISTRIBUTION OF RESTORATIVE TIME
% TIME BY SSI
100
90
80
70
60
50
40
30
20
10
0
81
12
A
B
D
E
F
G
K
M
N
0
1
2
1
2
0
0
SSI (NON-STUDENTS)

DISTRIBUTION OF ENDODONTIC TIME

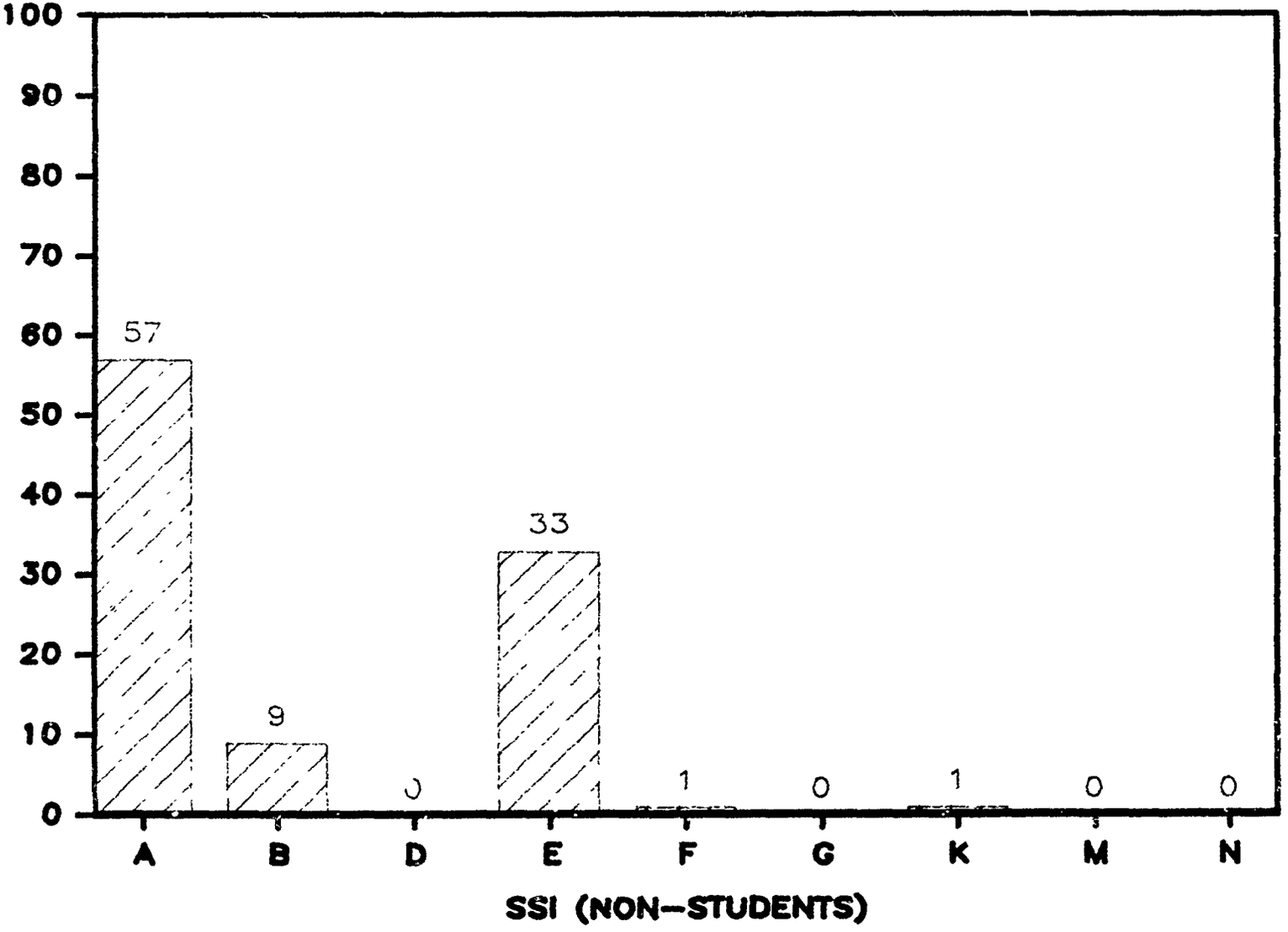


FIGURE 21

PROFILE OF SELECTED PROCEDURES

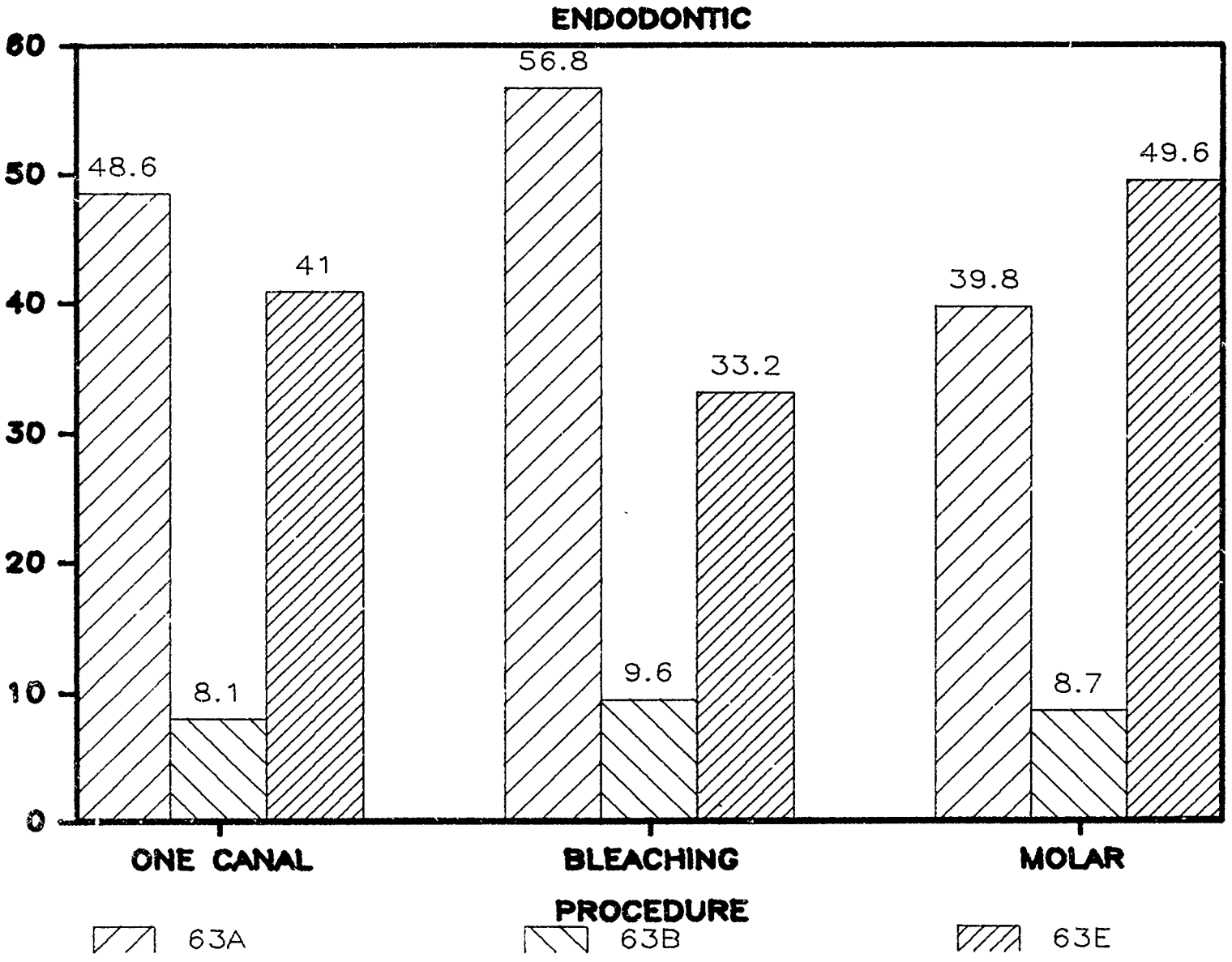
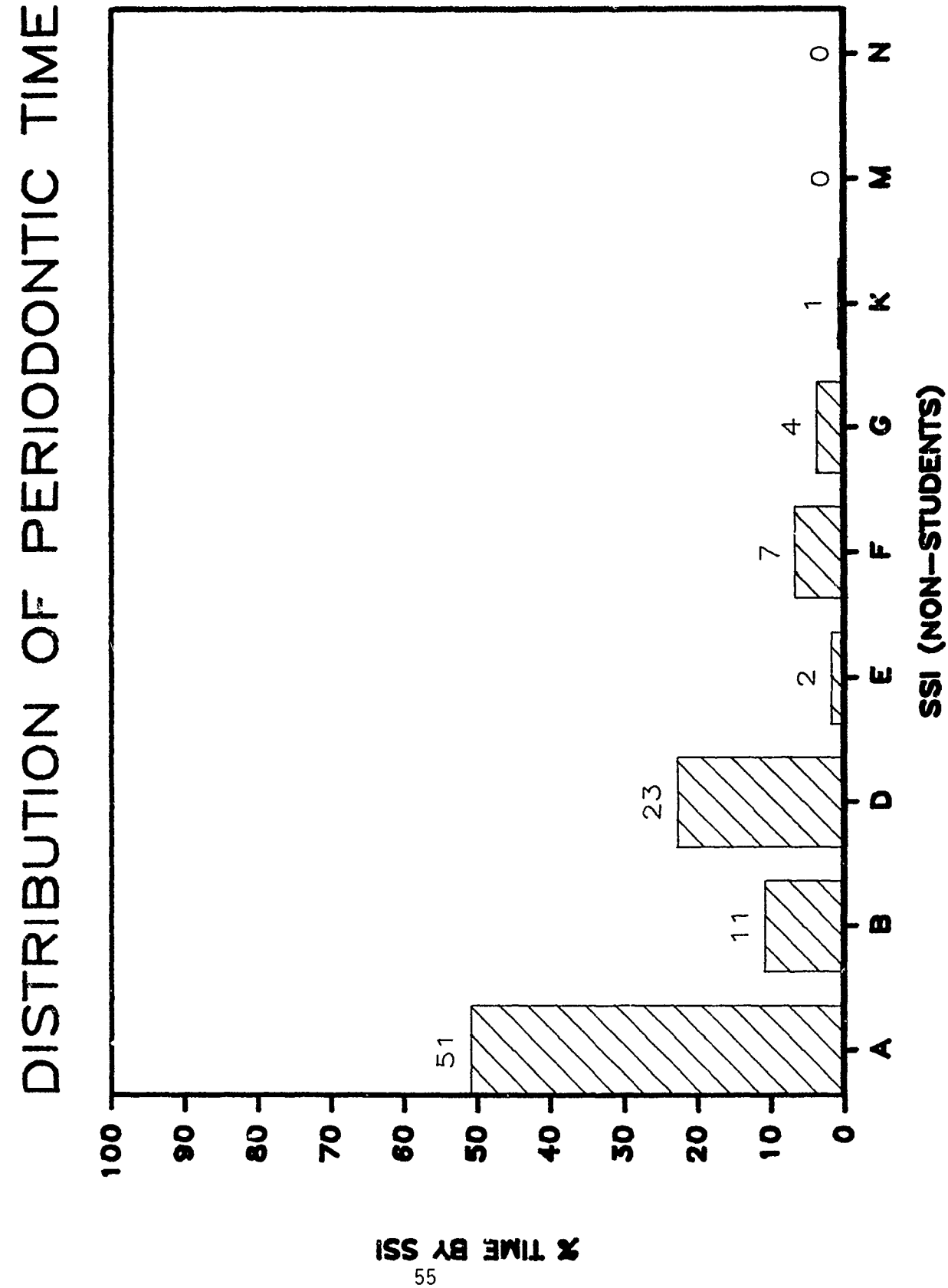


FIGURE 22

FIGURE 23


DISTRIBUTION OF PERIODONTIC TIME
% TIME BY SSI
100
90
80
70
60
50
40
30
20
10
0
51
11
23
2
7
4
1
0
0
A
B
D
E
F
G
K
M
N
SSI (NON-STUDENTS)

DISTRIBUTION OF TREATMENT TIME

FOR PERIODONTAL PROCEDURES

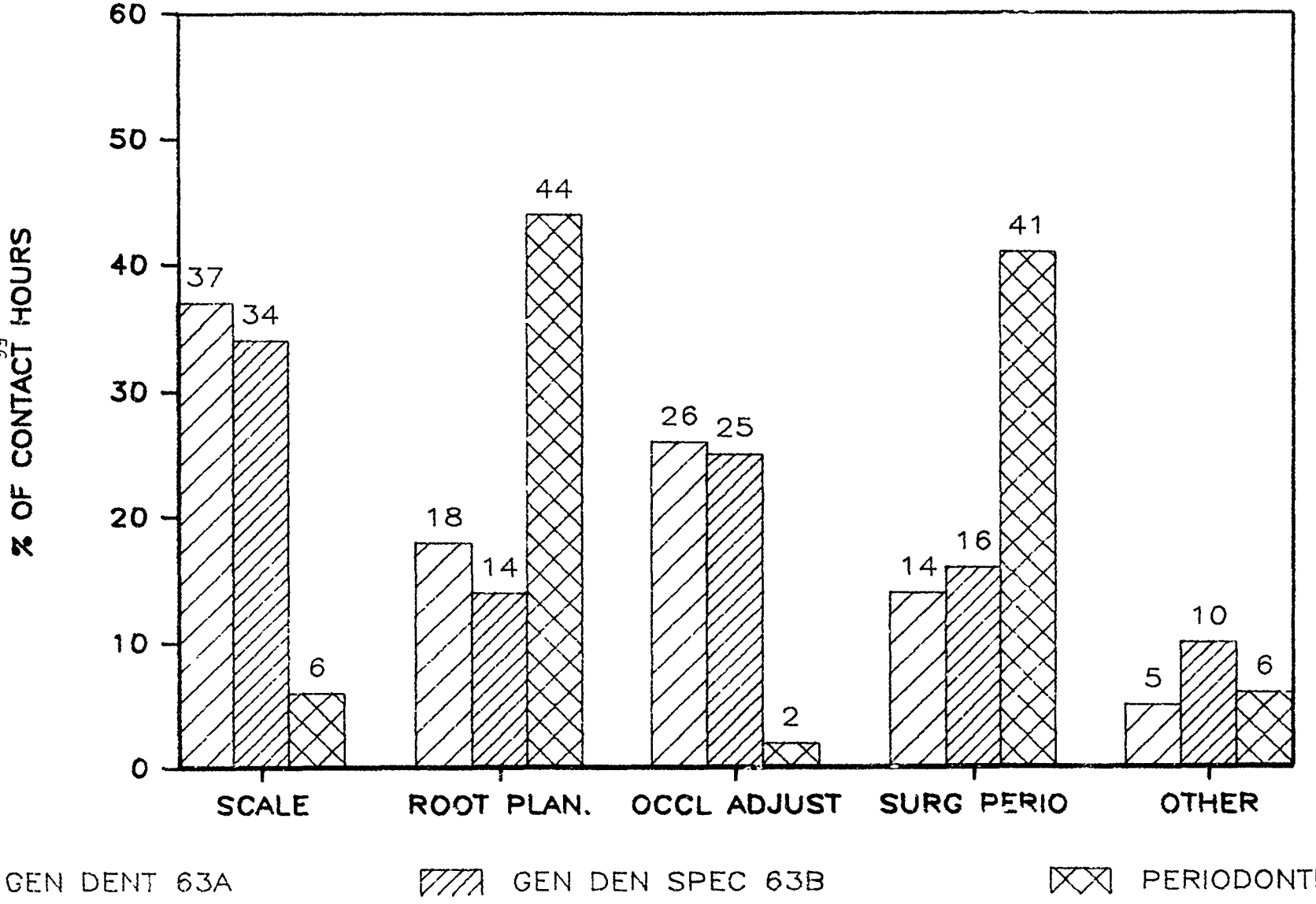


FIGURE 24

DISTRIBUTION OF REM PROS TIME

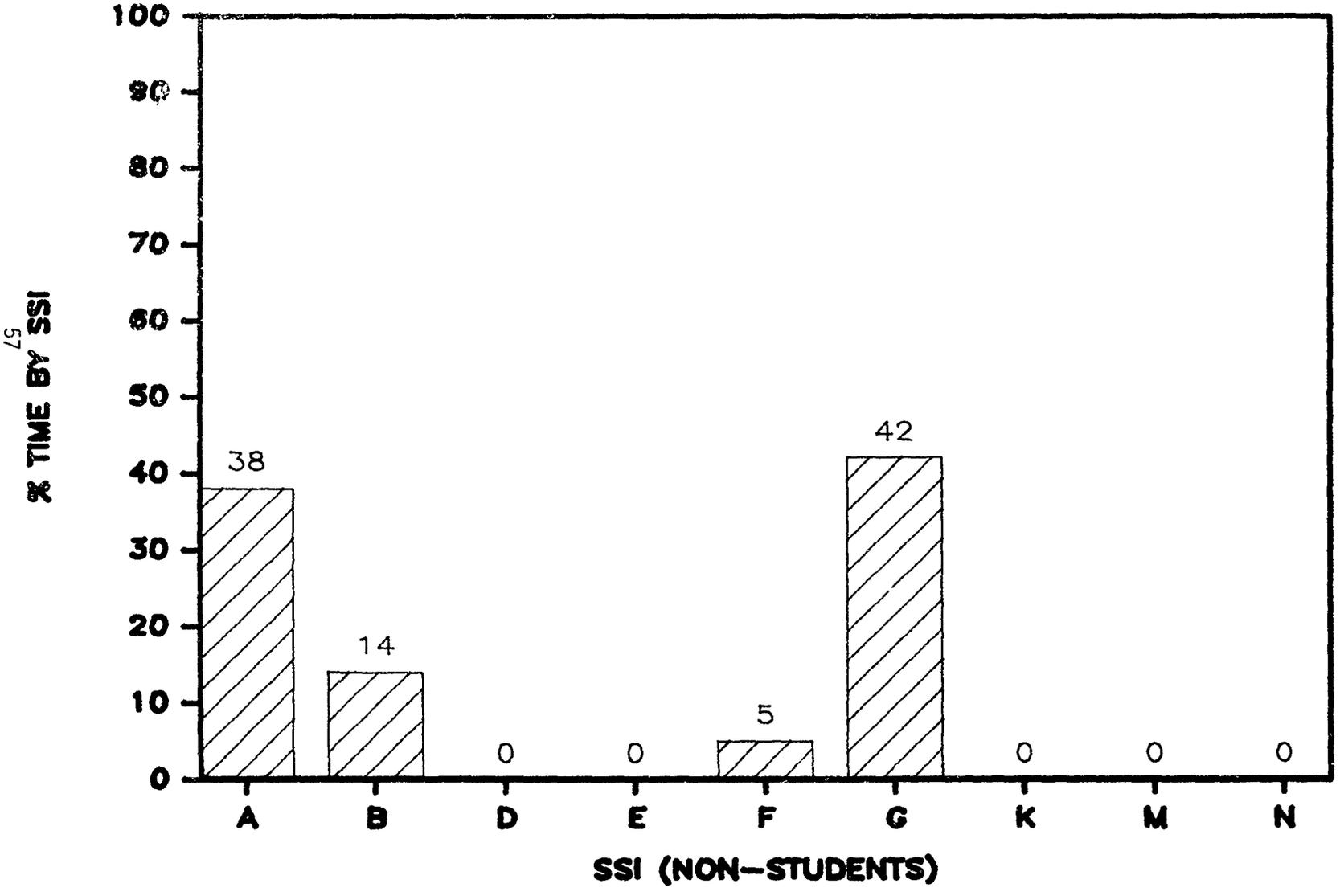
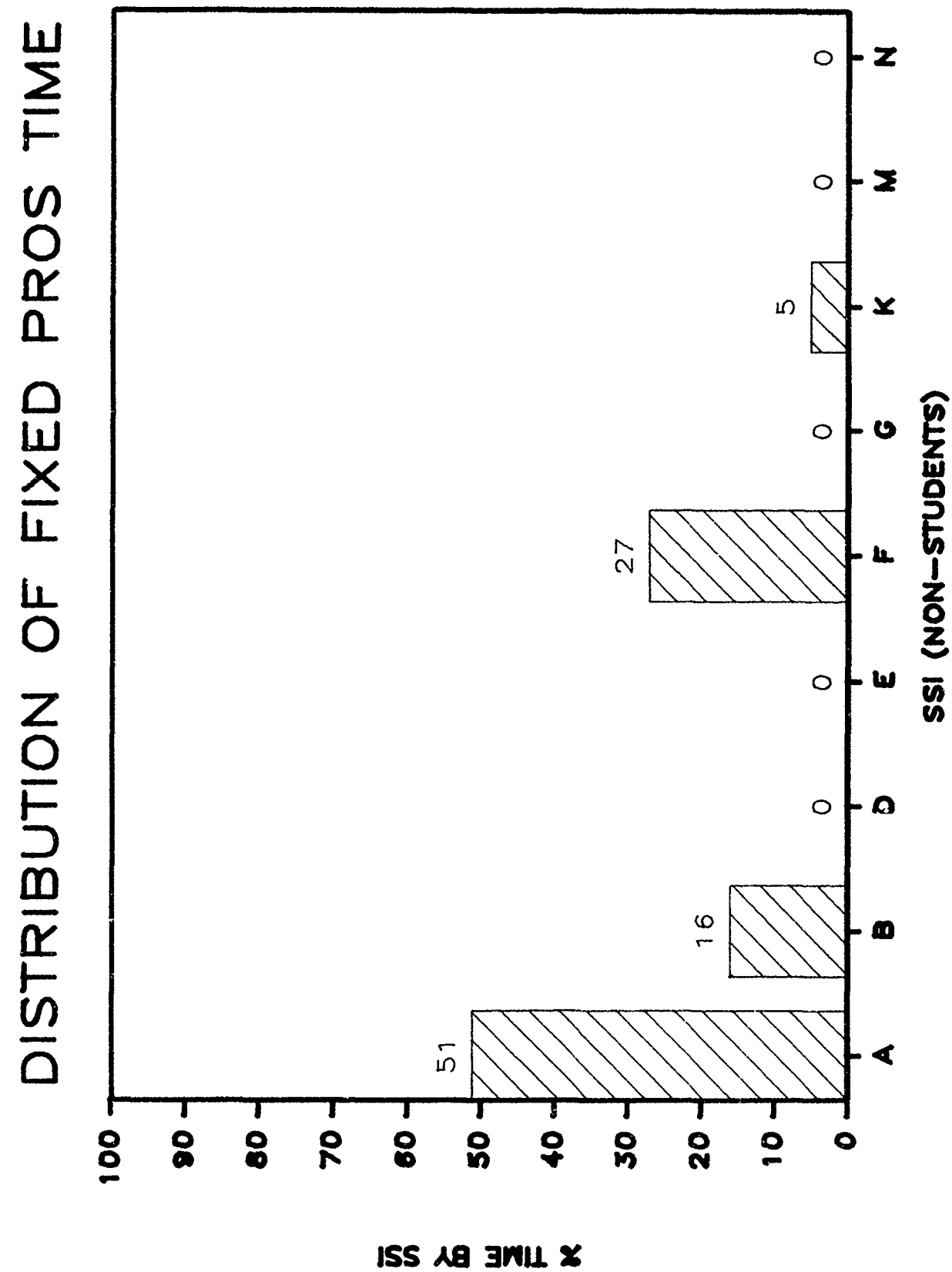


FIGURE 25

FIGURE 26


DISTRIBUTION OF FIXED PROS TIME
% TIME BY SSI
100
90
80
70
60
50
40
30
20
10
0
51
16
0
27
0
5
0
0
A
B
D
E
F
G
K
M
N
SSI (NON-STUDENTS)

DISTRIBUTION OF SURGICAL TIME

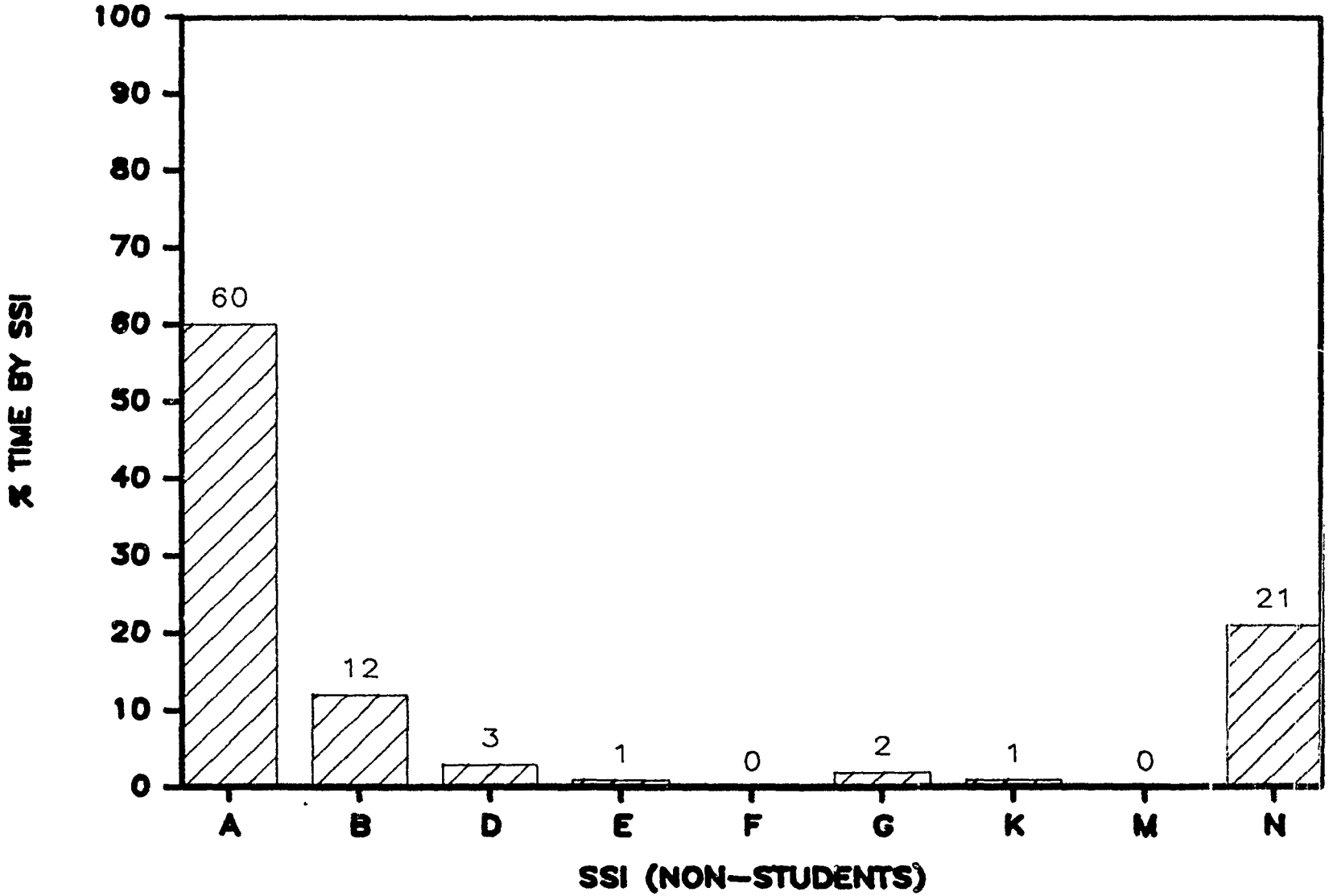


FIGURE 27

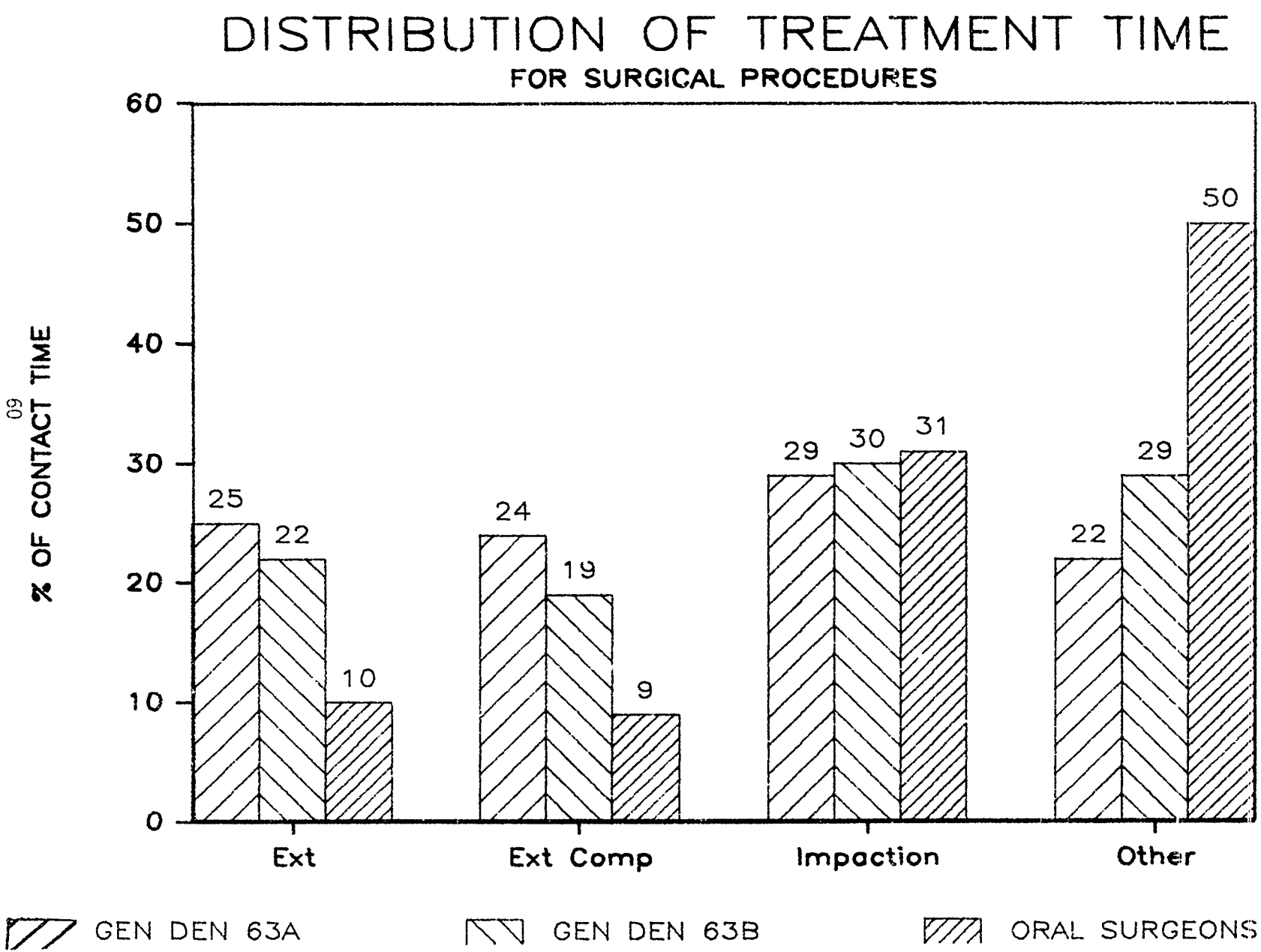

DISTRIBUTION OF TREATMENT TIME
FOR SURGICAL PROCEDURES
% OF CONTACT TIME
60
50
40
30
20
10
0
25
22
10
24
19
9
29
30
31
22
29
50
Ext
Ext Comp
Impaction
Other
GEN DEN 63A
GEN DEN 63B
ORAL SURGEONS

FIGURE 28

FIGURE 29

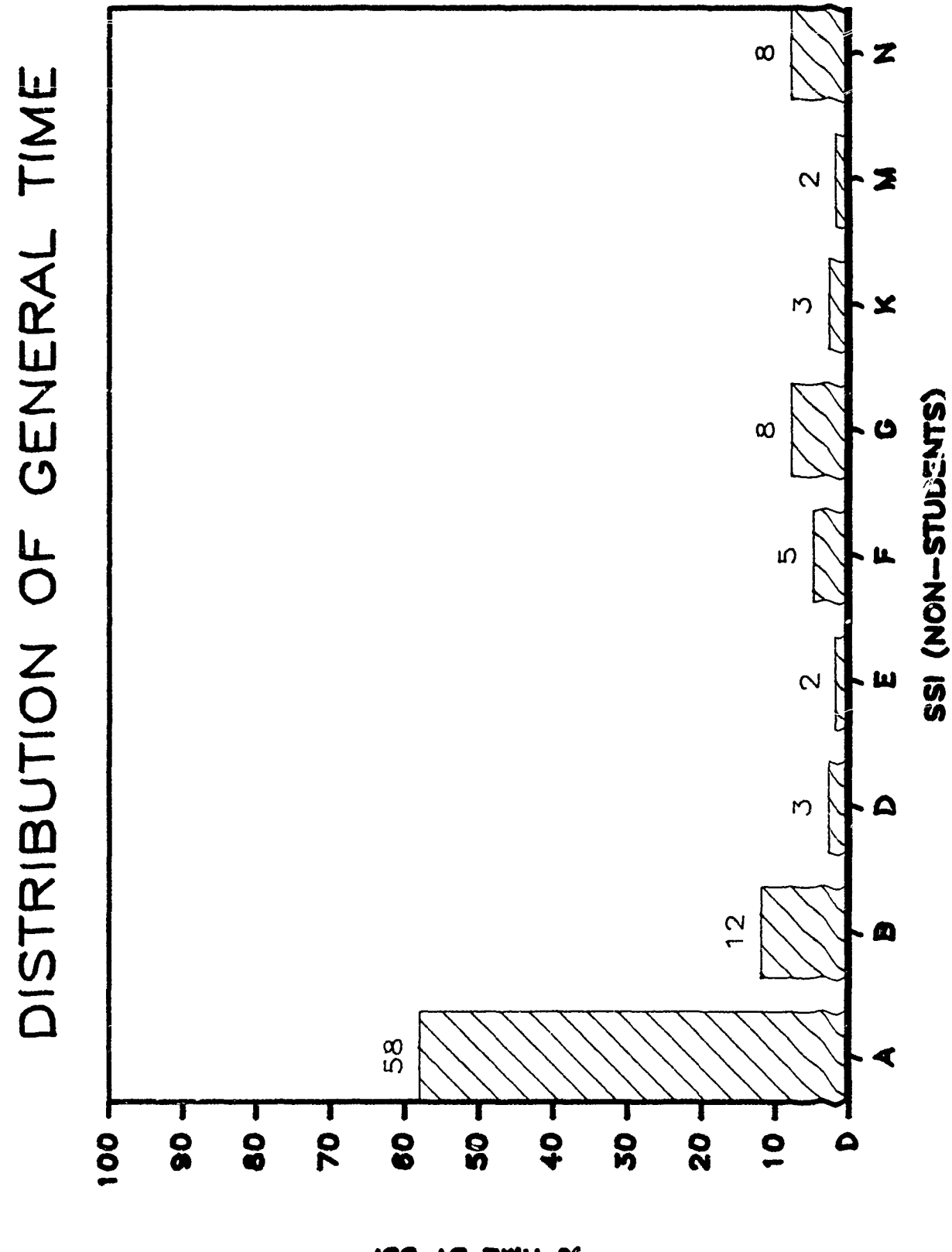

DISTRIBUTION OF GENERAL TIME
% TIME BY SSI
100
90
80
70
60
50
40
30
20
10
0
58
12
3
2
5
8
3
2
8
A
B
D
E
F
G
K
M
N
SSI (NON-STUDENTS)

FIGURE 30

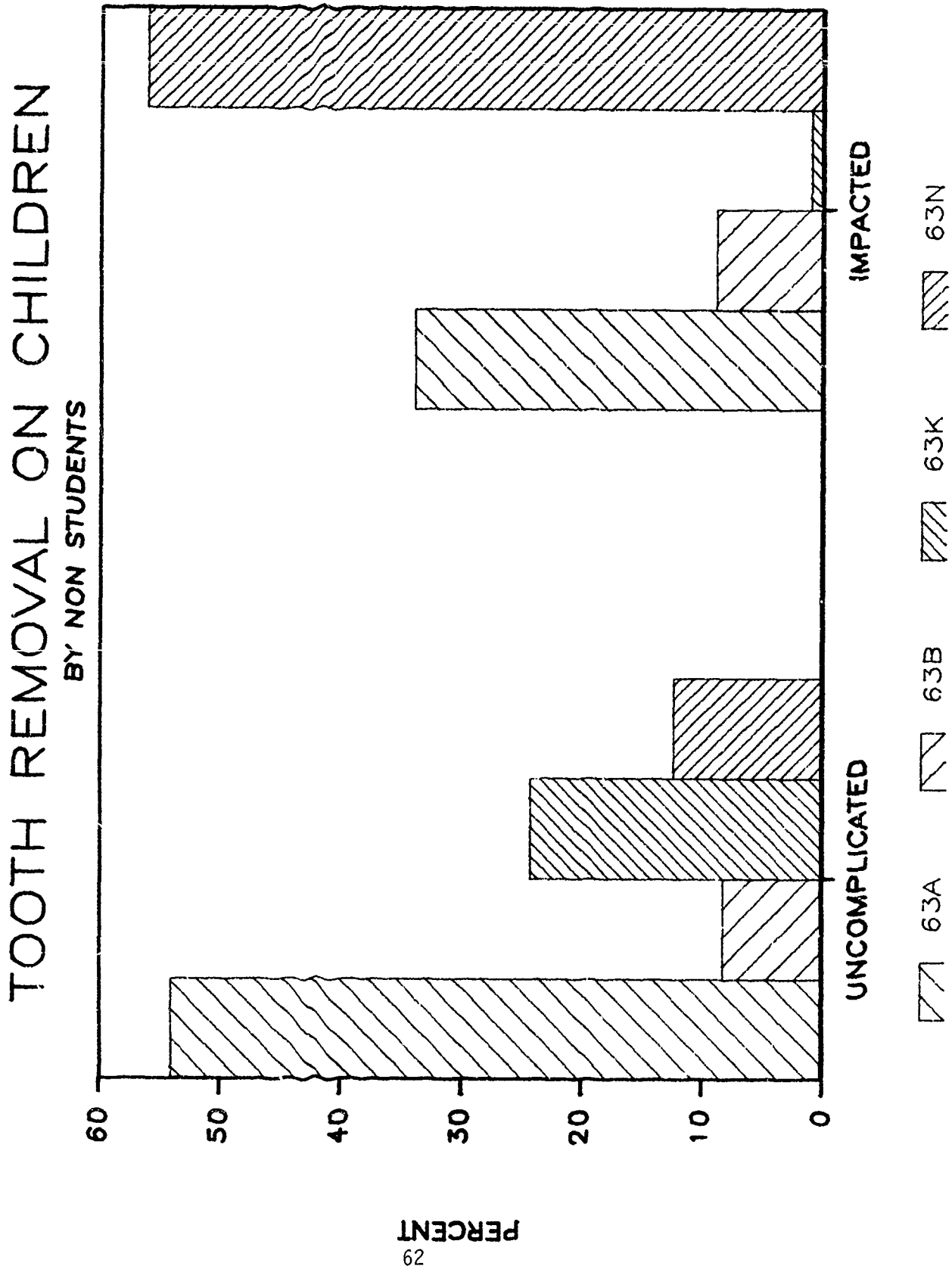

TOOTH REMOVAL ON CHILDREN
BY NON STUDENTS
PERCENT
60
50
40
30
20
10
0
UNCOMPLICATED
IMPACTED
63A
63B
63K
63N

FIGURE 31

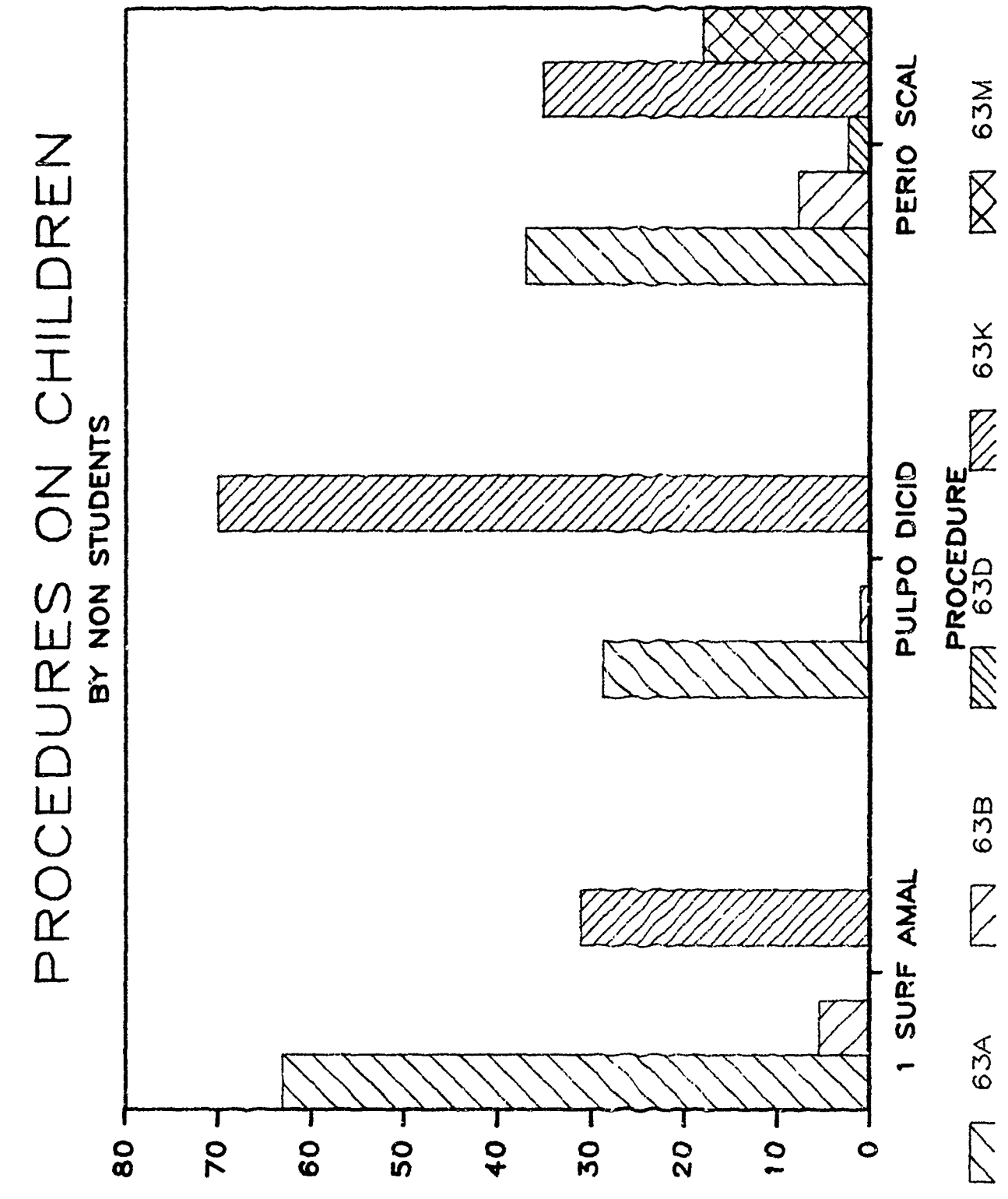
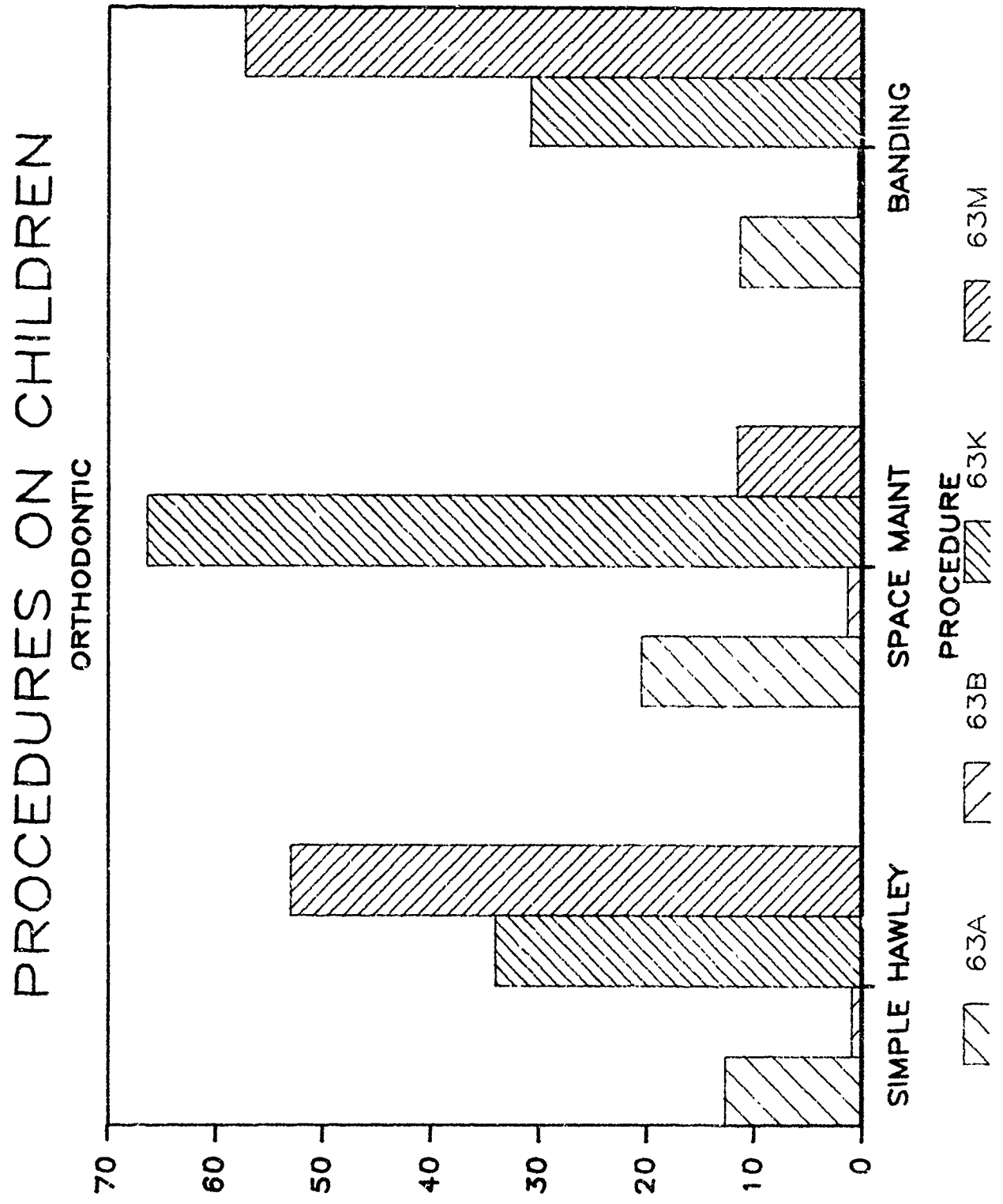

PROCEDURES ON CHILDREN
BY NON STUDENTS
PERCENT
80
70
60
50
40
30
20
10
0
1 SURF AMAL
PULPO DICID
PERIO SCAL
PROCEDURE
63A
63B
63D
63K
63M

FIGURE 32


PROCEDURES ON CHILDREN
ORTHODONTIC
PERCENT
70
60
50
40
30
20
10
0
SIMPLE HAWLEY
SPACE MAINT
BANDING
PROCEDURE
63A
63B
63K
63M

DAILY CONTACT HOURS

PER SSI

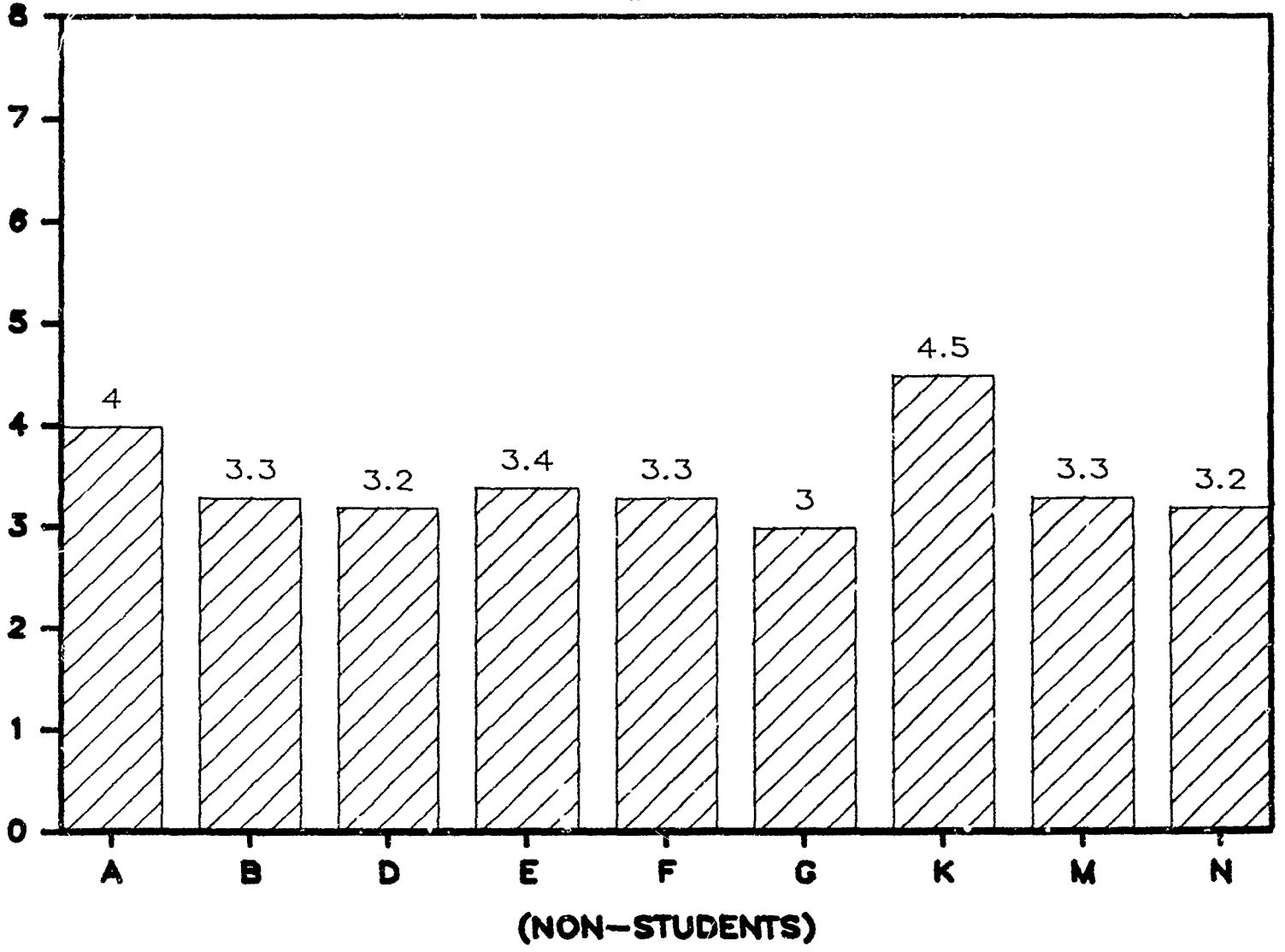
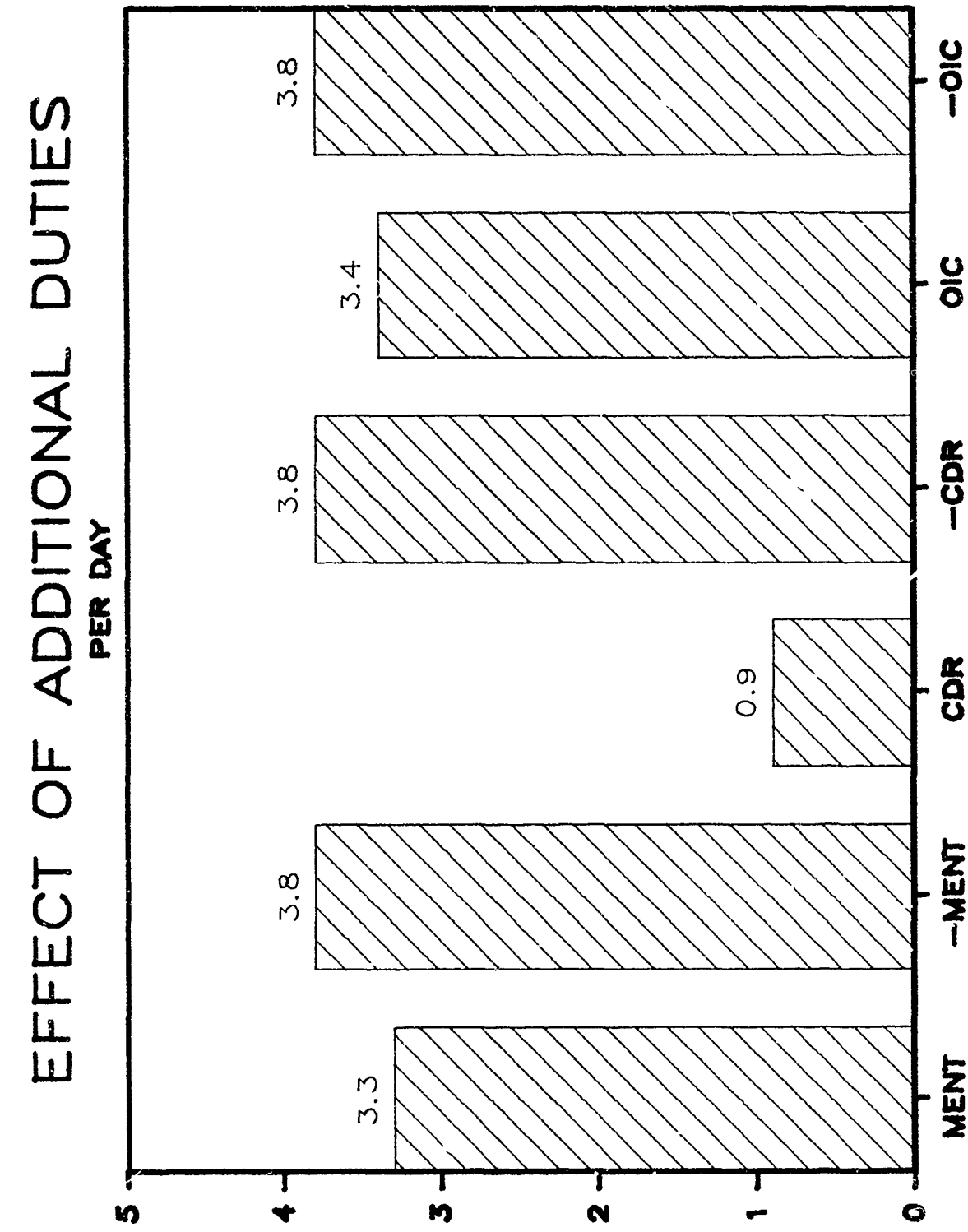


FIGURE 33

FIGURE 34


EFFECT OF ADDITIONAL DUTIES
PER DAY
CONTACT HOURS
5
4
3
2
1
0
3.3
3.8
0.9
3.8
3.4
3.8
MENT
—MENT
CDR
—CDR
OIC
—OIC

WEIGHTED WORK UNITS

PER CONTACT HOUR

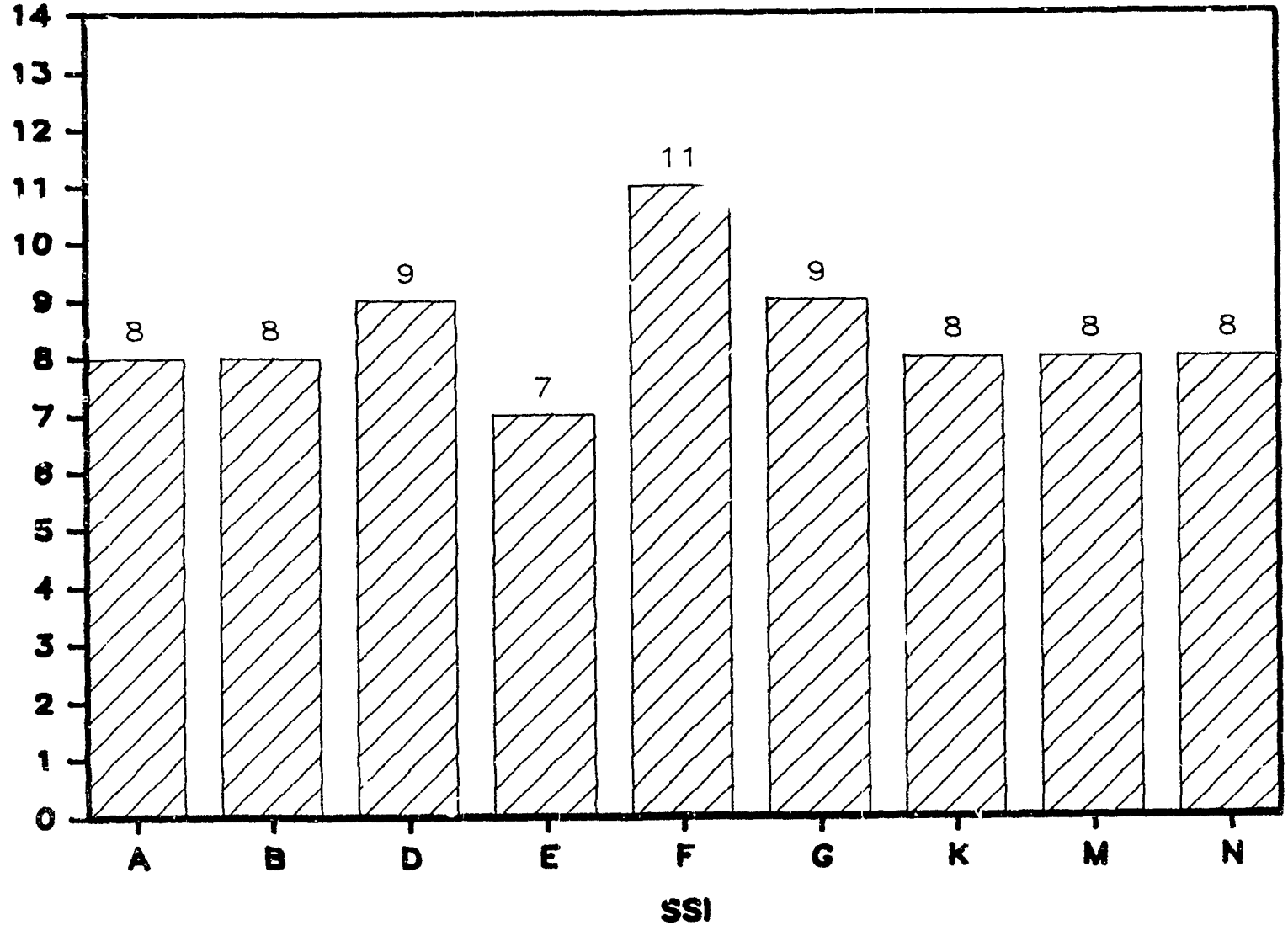


FIGURE 35

DAILY WEIGHTED WORK UNITS

PER DENTIST

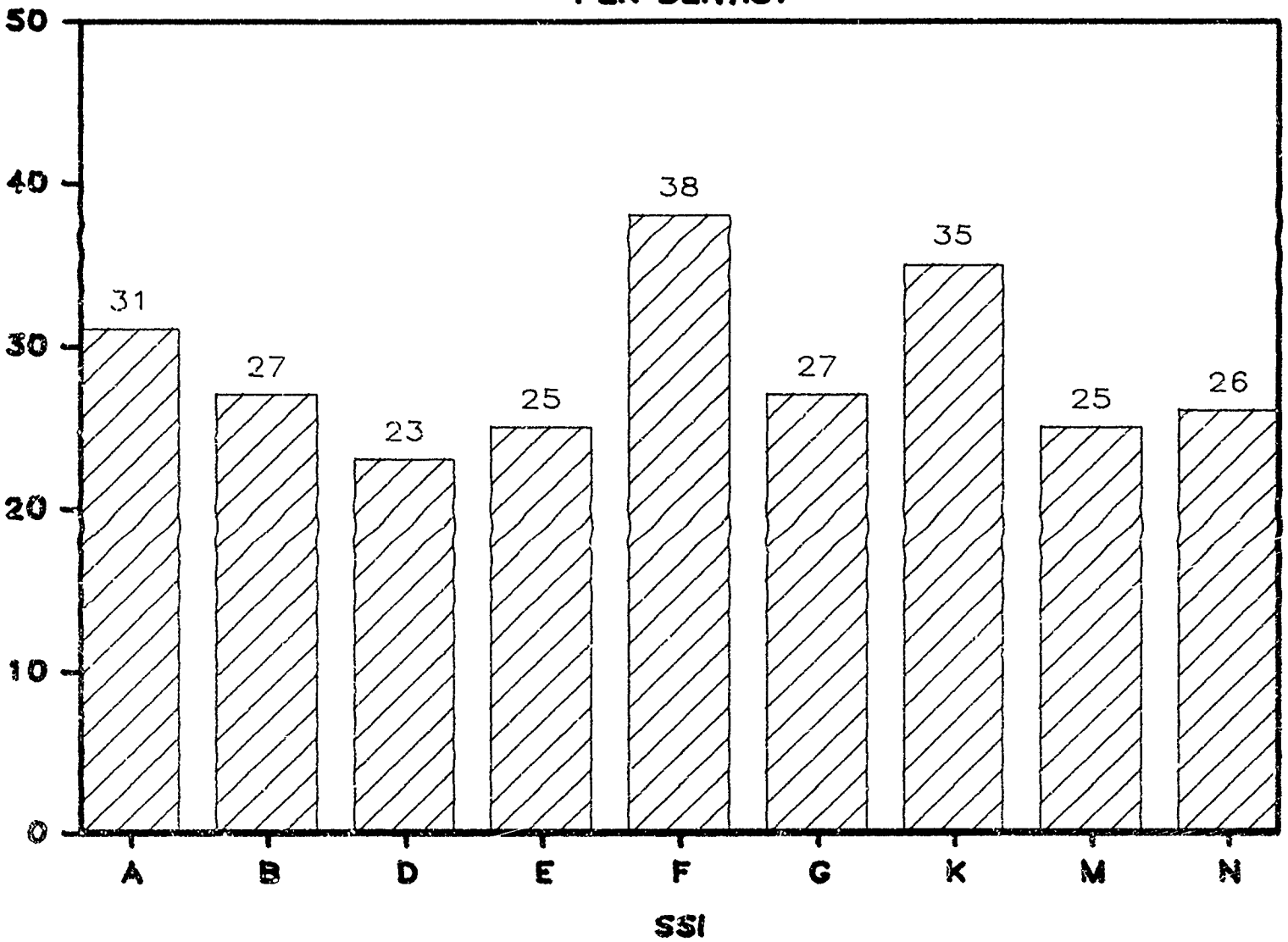


FIGURE 36

FIGURE 37

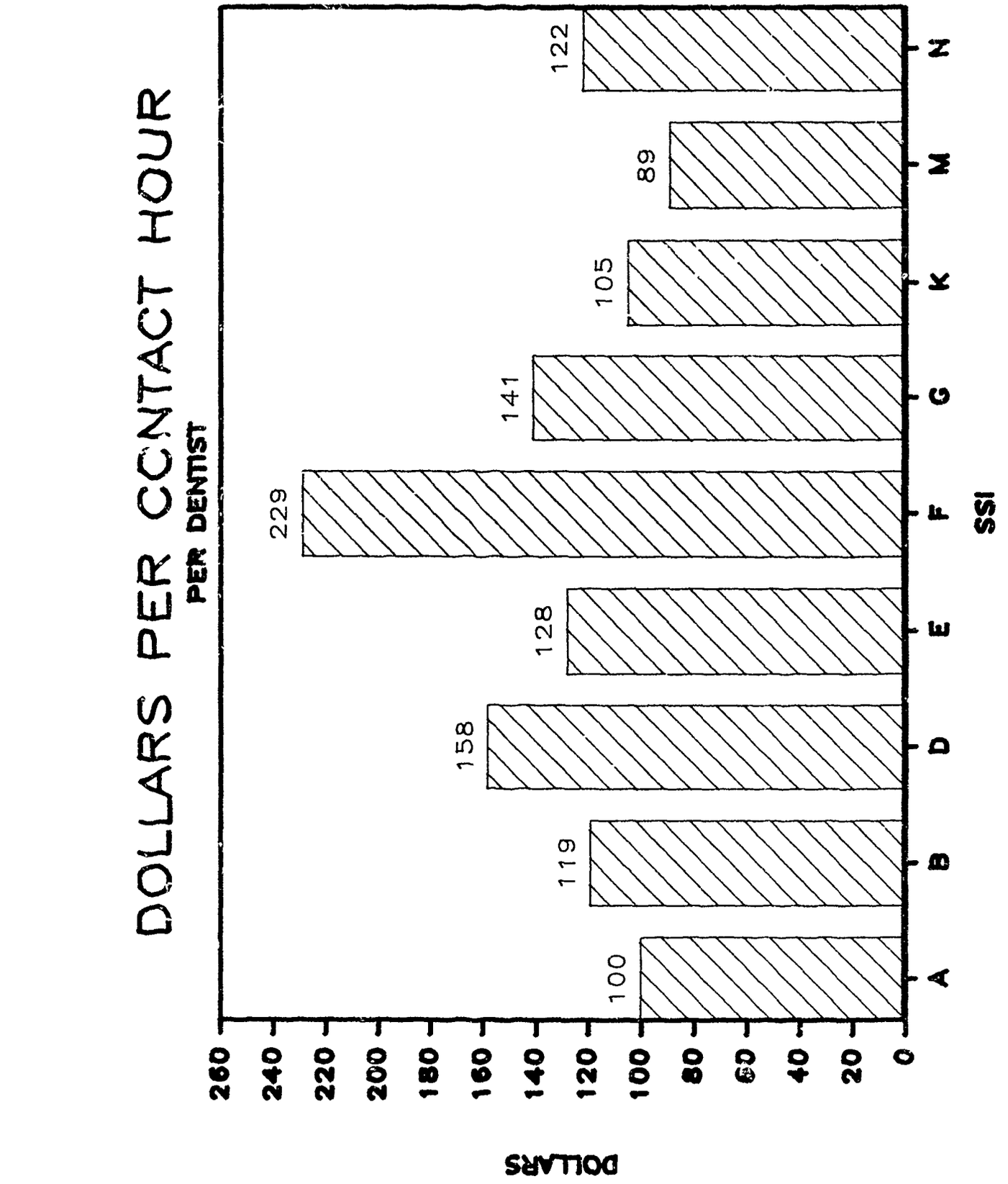
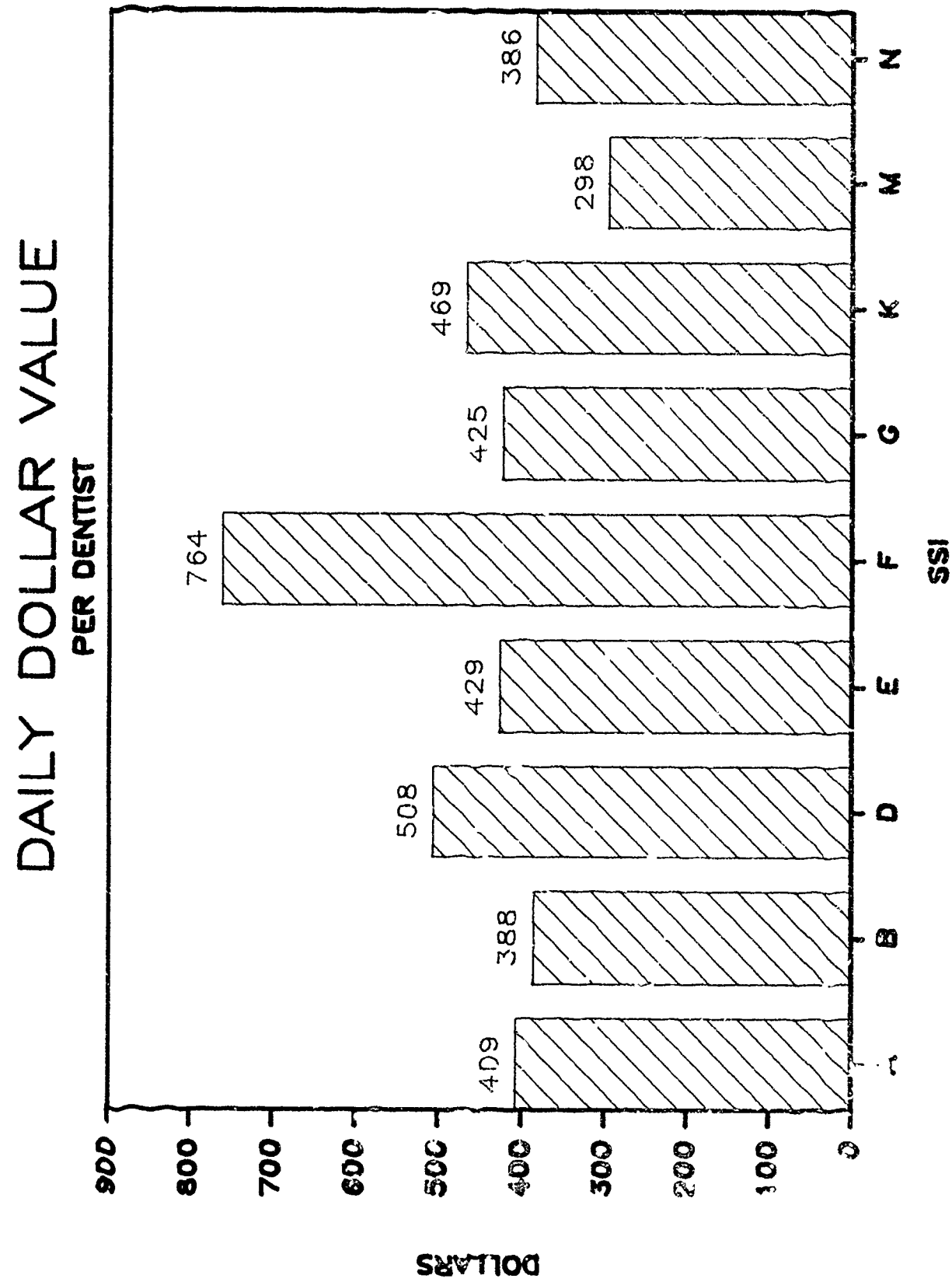

DOLLARS PER CONTACT HOUR
PER DENTIST
DOLLARS
SSI
0
20
40
60
80
100
120
140
160
180
200
220
240
260
A
B
D
E
F
G
K
M
N
100
119
158
128
229
141
105
89
122

FIGURE 38


DAILY DOLLAR VALUE
PER DENTIST
DOLLARS
900
800
700
600
500
400
300
200
100
0
409
388
508
429
764
425
469
298
386
B
D
E
F
G
K
M
N
SSI

PRODUCTIVITY OF CDRS AND CLINIC CHIEF

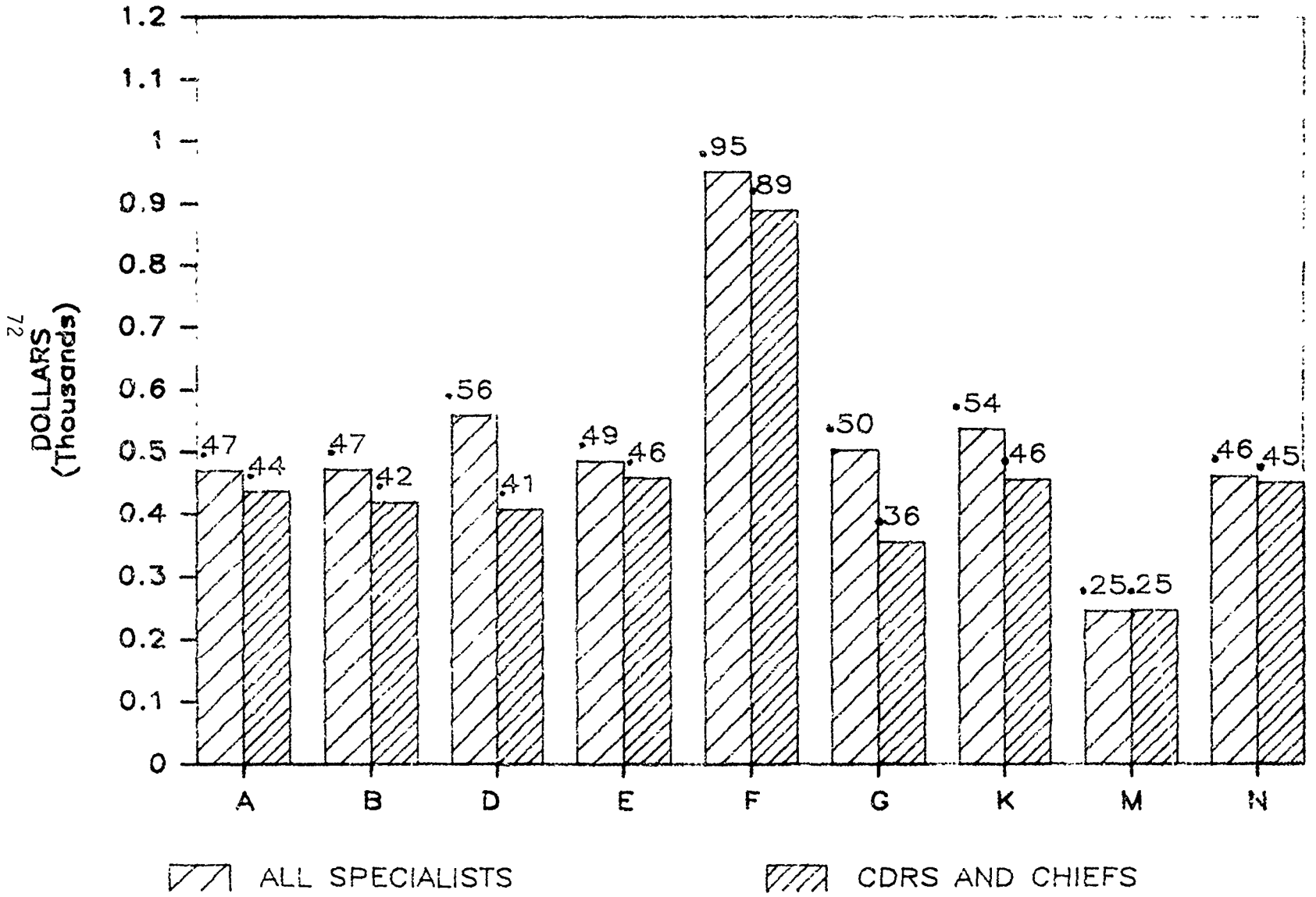


FIGURE 40

% ADDITIONAL CONTACT TIME TO EQUAL

FIXED PROSTHODONTISTS' PRODUCTIVITY

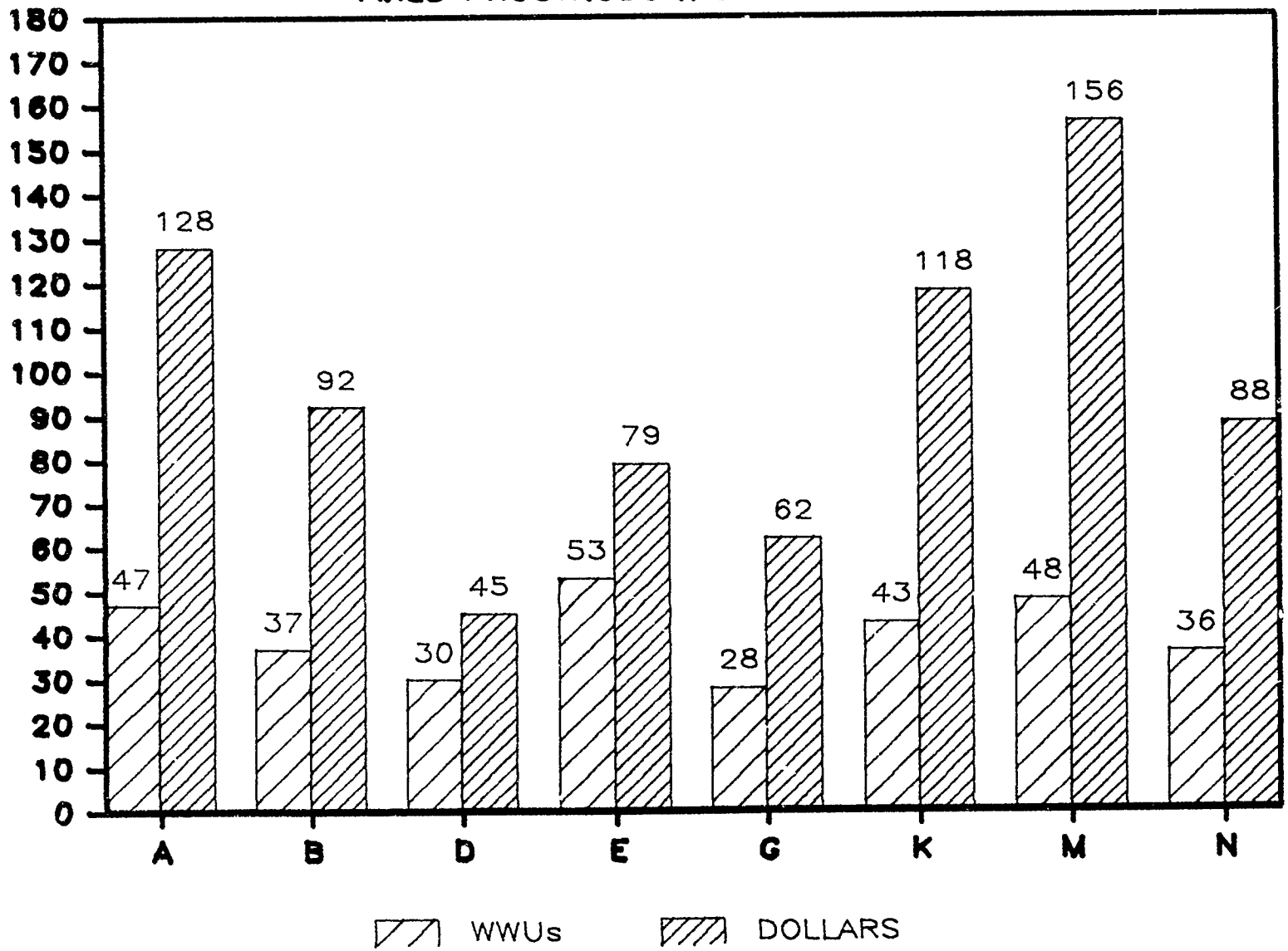


FIGURE 39

PRODUCTIVITY

BY ADDITIONAL SKILL IDENTIFIER

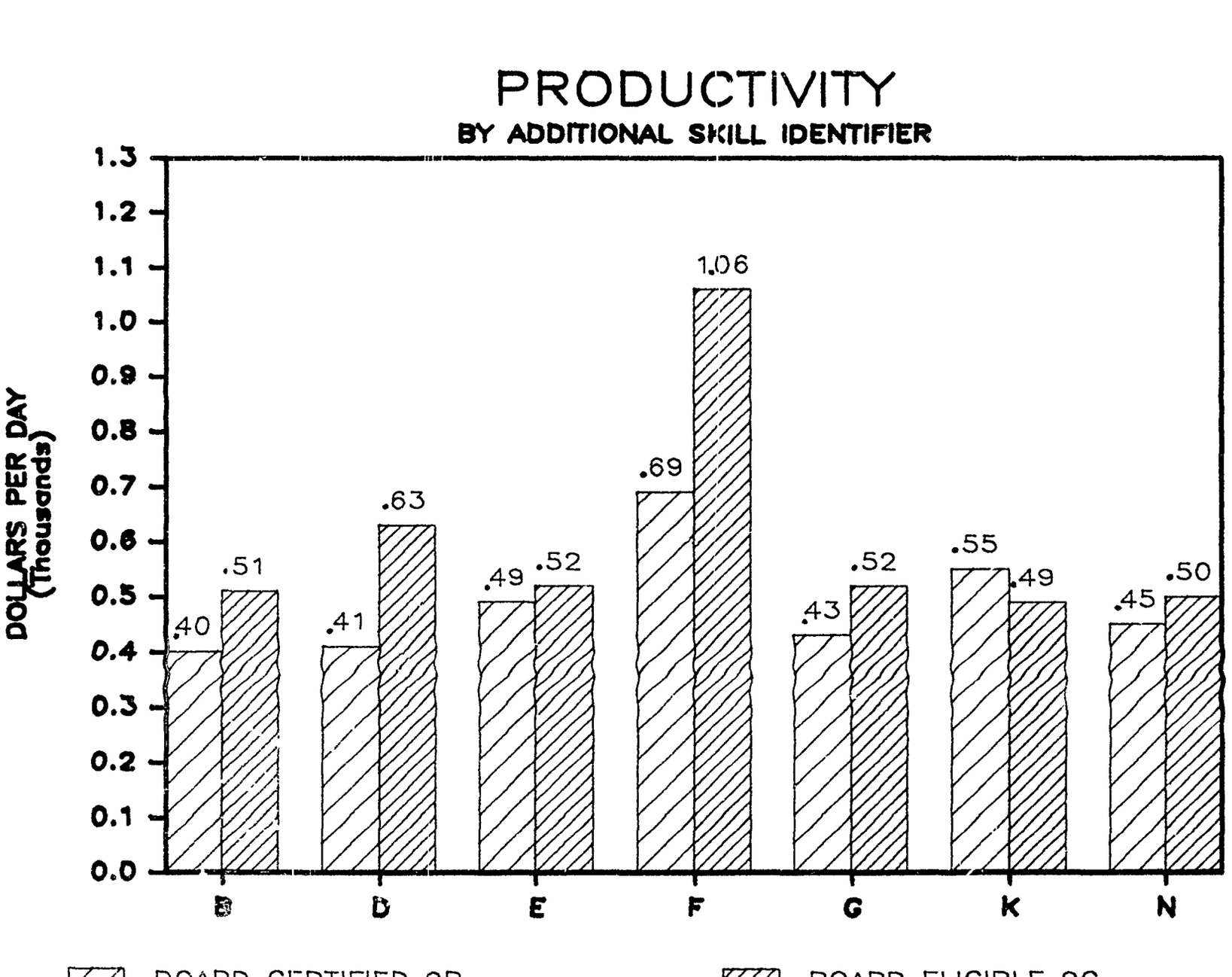


FIGURE 41

PRODUCTIVITY OF MENTORS

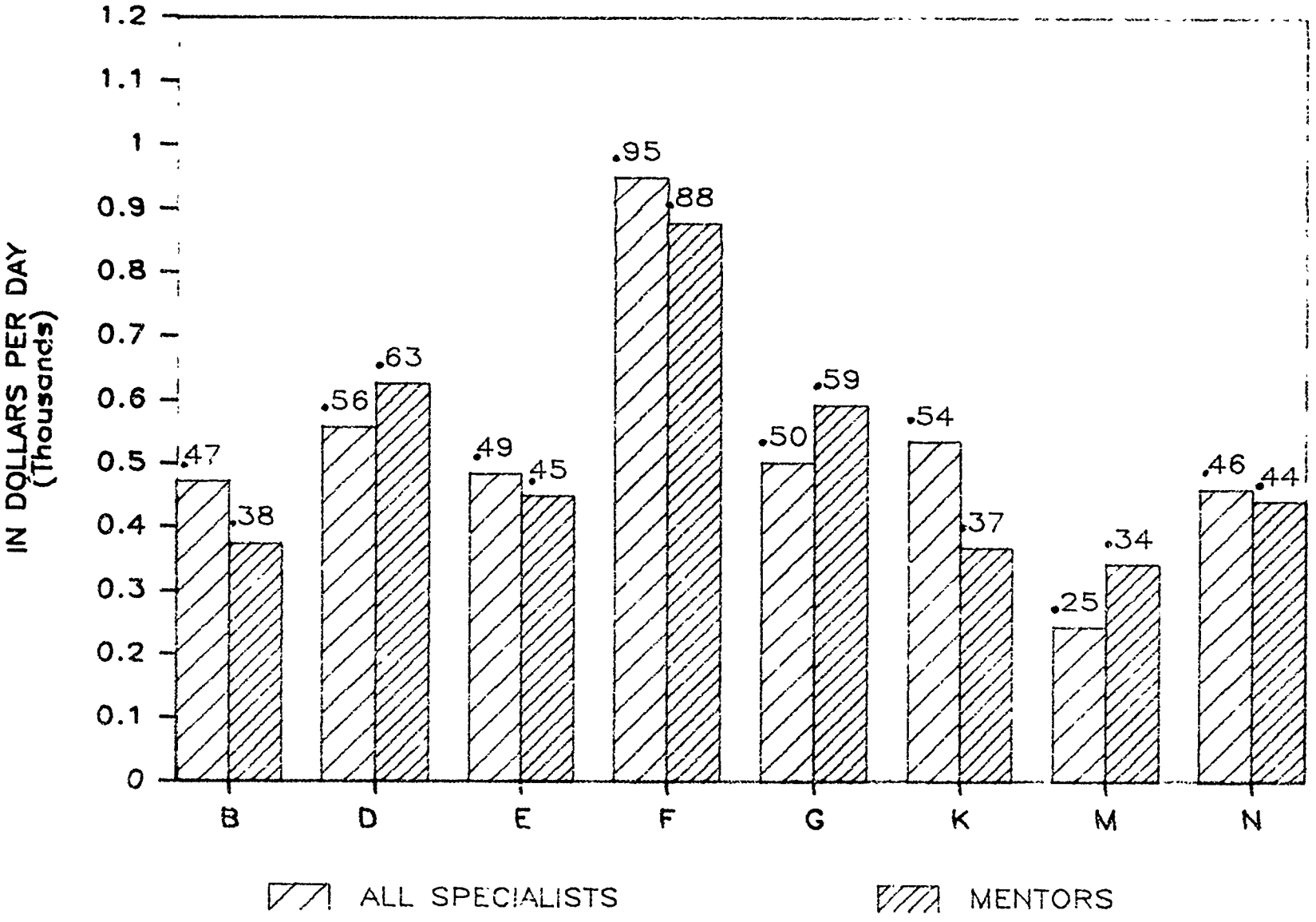


FIGURE 42

DISTRIBUTION OF PATIENT CATEGORIES

BY SPECIALTY

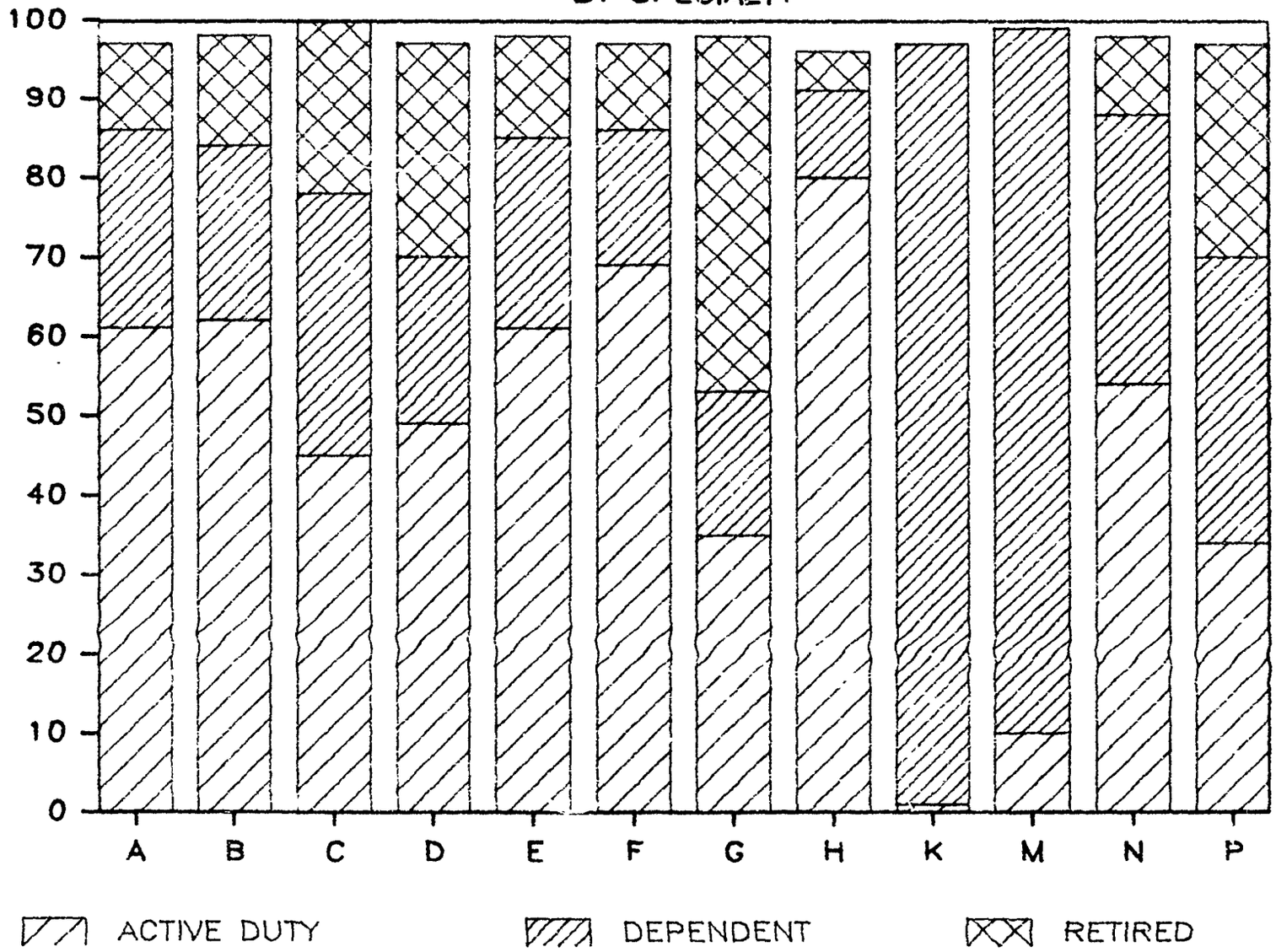
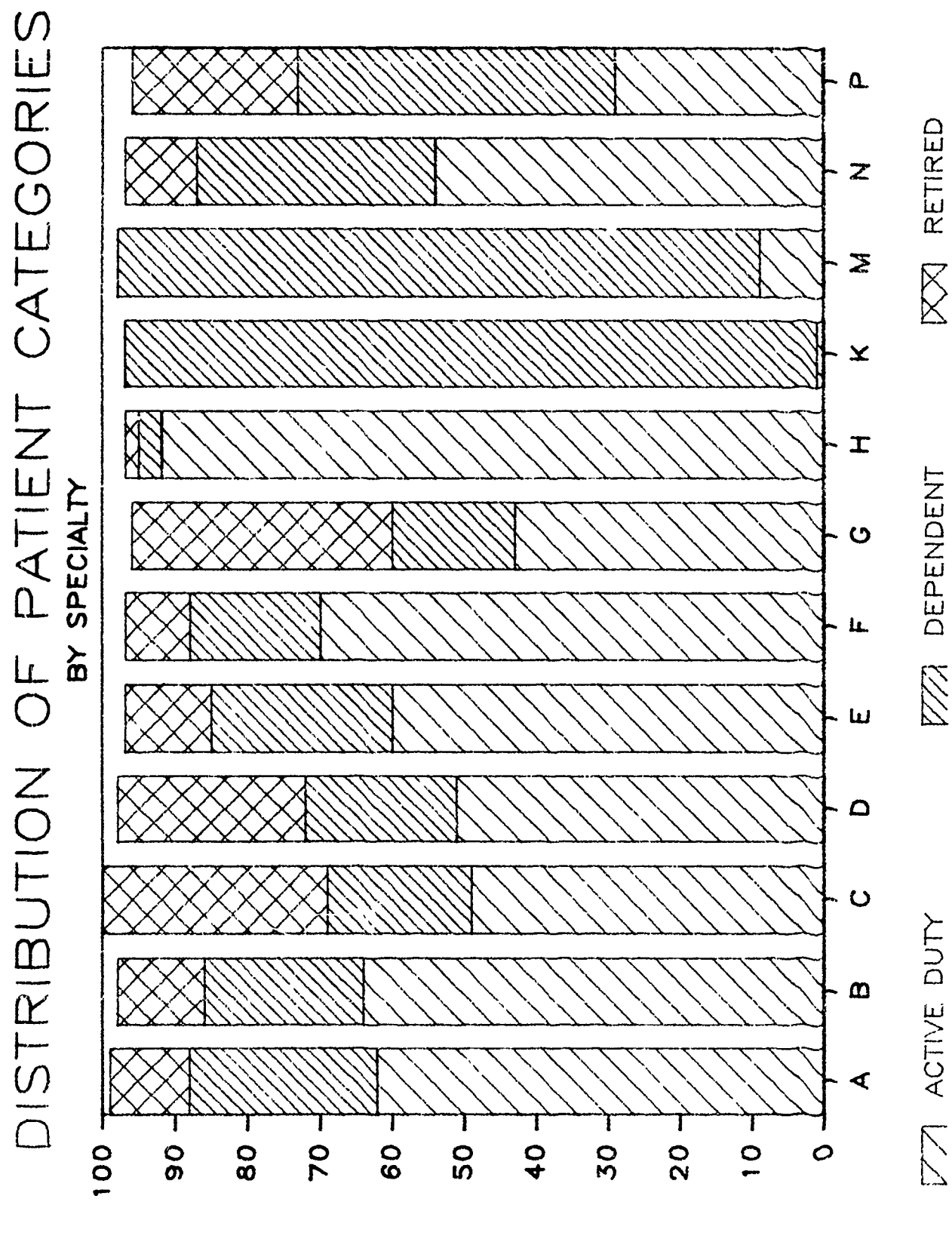


FIGURE 43

FIGURE 44


DISTRIBUTION OF PATIENT CATEGORIES
BY SPECIALTY
% OF PATIENTS
100
90
80
70
60
50
40
30
20
10
0
A
B
C
D
E
F
G
H
K
M
N
P
ACTIVE DUTY
DEPENDENT
RETIRED

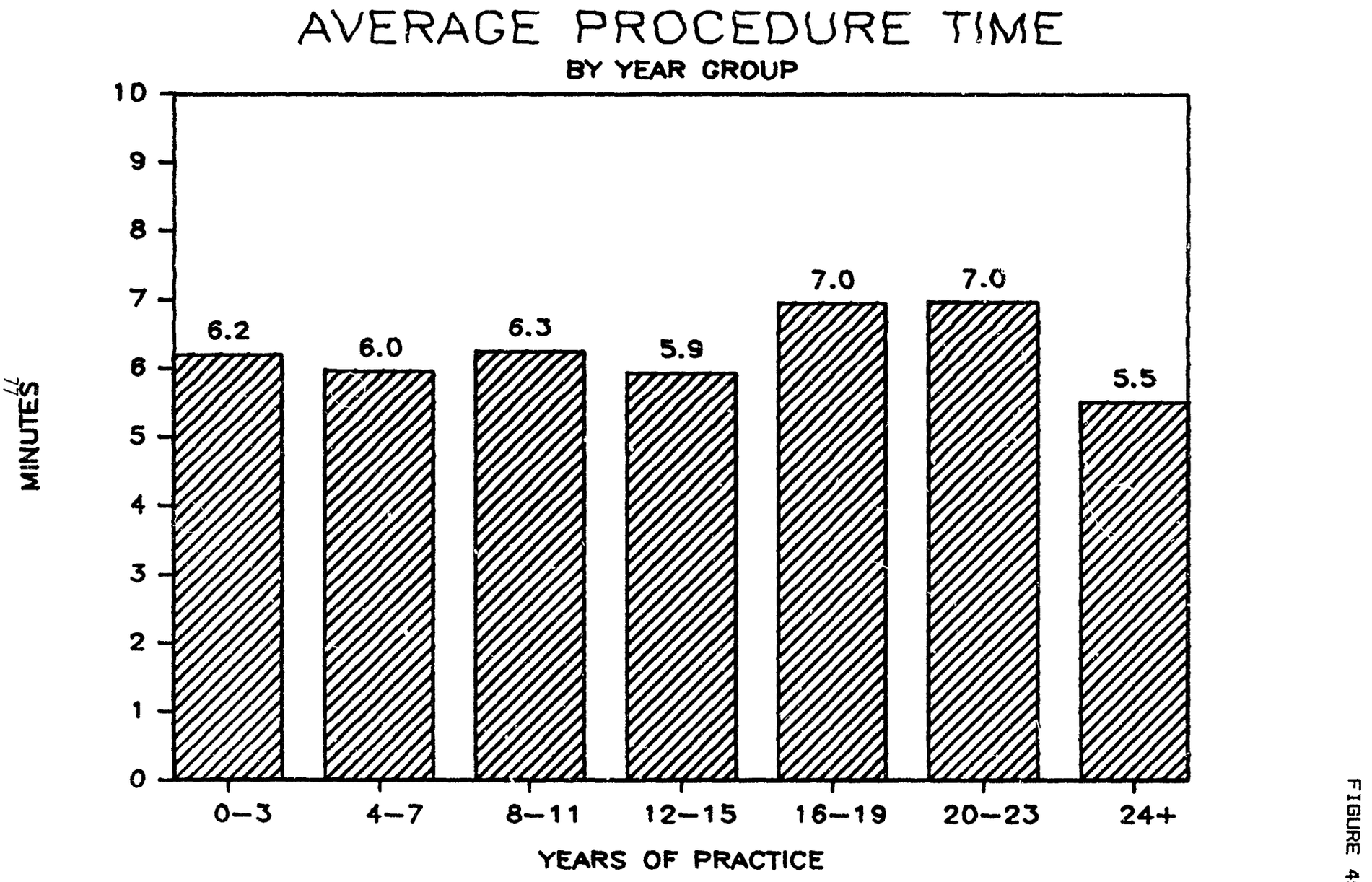

AVERAGE PROCEDURE TIME
BY YEAR GROUP
MINUTES
10
9
8
7
6
5
4
3
2
1
0
6.2
6.0
6.3
5.9
7.0
7.0
5.5
0–3
4–7
8–11
12–15
16–19
20–23
24+
YEARS OF PRACTICE

FIGURE 45

AVERAGE PROCEDURE TIME

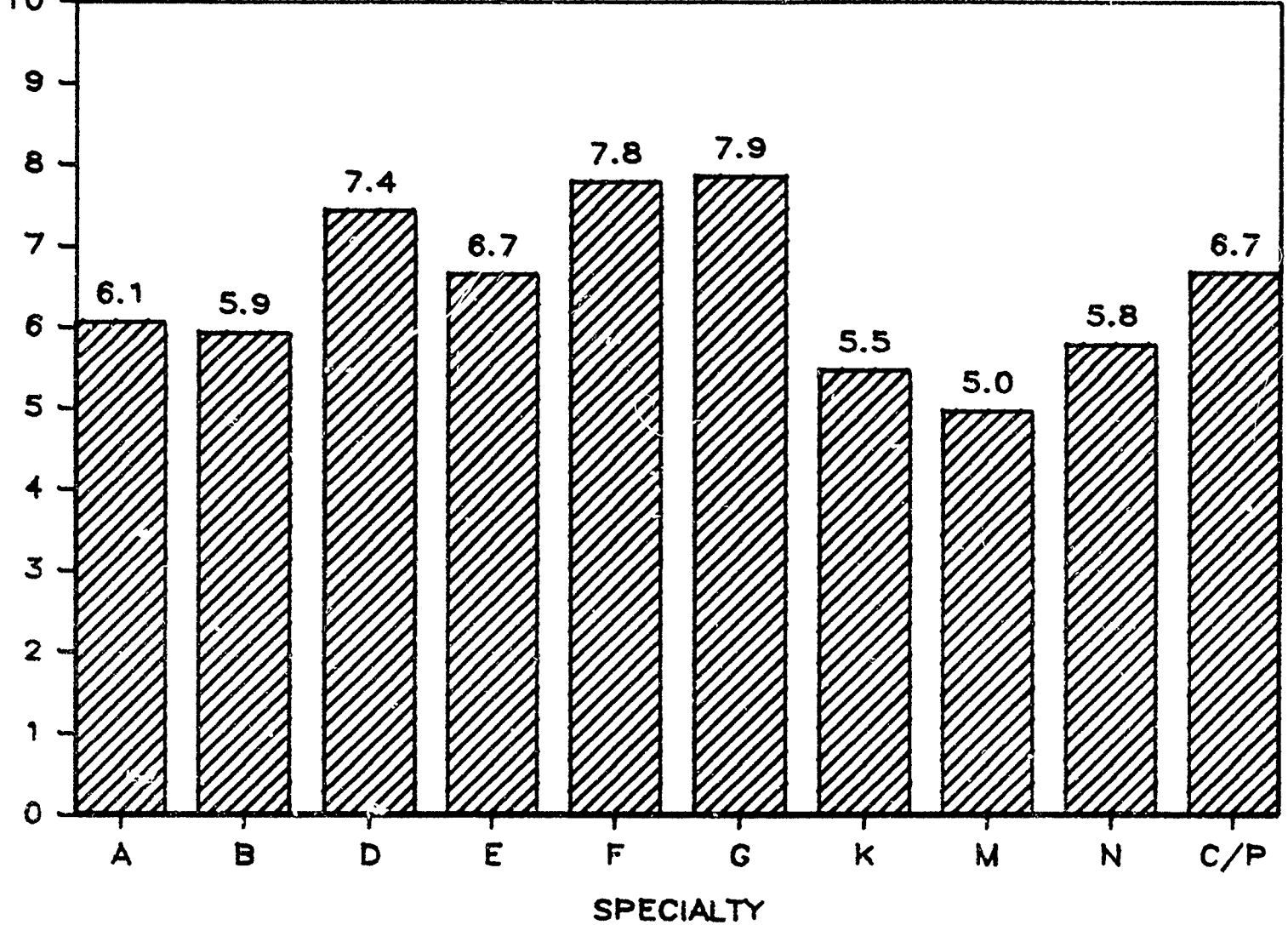


FIGURE 46

APPENDIX B

TABLES

TABLE 1

AGE, YEARS OF CIVILIAN/MILITARY PRACTICE, YEAR OF LAST PROMOTION, YEARS LEFT IN THE SERVICE, AND NUMBER OF DUTY STATION MOVES

	ALL DENTISTS			GENERAL DENTISTS			SPECIALISTS		
	mean	median	mode	mean	median	mode	mean	median	mode
AGE OF RESPONDENT	37.70	35	31	32.08	31	31	41.25	40	37
YEARS OF CIVILIAN PRACTICE	1.04	0	0	1.03	0.0	0.0	1.08	0.0	0.0
YEARS OF MILITARY PRACTICE	8.18	6	2	4.33	4	2 1	15.00	13	11
YEAR OF DENTAL DEGREE	1974	1977	1982	1978	1979	1982	1968	1970	1972
YEAR AWARDED SPECIALTY	****	****	****	****	****	****	1976	1977	1982
YEARS LEFT TO RETIRE	12.09	13	15	15.11	16	15	7.6	8	8
NUMBER OF MOVES	3.8	3	1	2.1	2	1	6.4	6	5

* Data were not appropriate for that cell.

TABLE 2

DUTY ASSIGNMENT (%)*

	ALL DENTISTS	GENERAL DENTISTS	DENTAL SPECIALISTS
CLINICAL DENTIST	69.9	81.9	54.3
PROGRAM DIRECTOR	2.3	0.5	4.8
CLINIC DIRECTOR	14.4	6.3	25.2
UNIT COMMANDER	3.5	0.1	7.4
LABORATORY OFFICER	0.3	0.1	0.6
HEADQUARTERS STAFF	1.0	0.4	1.9
ACADEMY INSTRUCTOR	0.3	0.2	0.5
RESEARCH POSITION	0.8	0.2	1.4
OTHER	7.5	10.4	3.7

* Percentage of responses listed. Respondents are assigned one primary duty which is exclusive of other duties, thus total of responses, in each categoryequals100%.

TABLE 3

ADDITIONAL DUTIES (%)*

	ALL DENTISTS	GENERAL DENTISTS	DENTAL SPECIALISTS
PREVENTIVE DENTISTRY OFFICER...	16.0	21.6	8.6
PHYSICAL TRAINING OFFICER.....	5.2	5.8	4.4
DEPUTY COMMANDER.....	5.1	1.6	9.8
SUPPLY OFFICER.....	12.1	13.8	9.8
EDUCATION OFFICER.....	10.8	8.1	14.3
PRECIOUS METALS OFFICER.....	15.7	13.5	18.7
PROGRAM MENTOR.....	13.4	1.8	28.7
OTHER DUTIES.....	78.1	80.9	74.3

* Percentage of cases listed. Respondents may be assigned several additional duties; total of responses may exceed 100%.

TABLE 4

HRS/WK IN SELECTED ACTIVITY

	ALL DENTISTS			GENERAL DENTISTS			SPECIALISTS		
	ARMY	SOLO*	INDEP*	ARMY	SOLO*	INDEP*	ARMY	SOLO*	INDEP*
TREATING PATIENTS	33.4	32.0	32.3	35.4	32.1	32.4	30.3	31.3	31.7
LABORATORY PROCEDURES	2.8	2.3	2.2	3.0	2.5	2.4	2.5	1.3	1.2
COMPLETING RECORDS**	3.2	1.8	1.9	3.2	1.9	1.9	3.2	1.6	1.8
PROFESSIONAL READING	3.9	2.1	2.2	3.4	2.1	2.1	4.7	2.4	2.5
PERSONNEL MATTERS	1.9	***	***	1.0	***	***	3.3	***	***
PERSONAL TIME/OTHER	***	4.6	4.8	***	4.5	4.6	***	6.0	6.1

*Source: 1982 Survey of Dental Practice.

**The Army survey asked for time to complete dental records and forms. The ADA survey times for bookeeping and filing prepayment forms were combined.

***The Army survey asked for time required for administrative purposes such as maintenance of the dental officer's personnel records.

***The ADA survey asked for time used for personal matters.

TABLE 5

PERCENTAGE OF TIME SPENT IN SELECTED ACTIVITIES

	ALL DENTISTS			GENERAL DENTISTS			SPECIALISTS		
	ARMY	SOLO*	INDEP*	ARMY	SOLO*	INDEP*	ARMY	SOLO*	INDEP*
DIAGNOSTIC PROCEDURES	10.8	9.6	9.6	9.3	9.9	9.9	14.3	7.5	7.9
PREVENTION	3.6	9.5	8.6	3.6	10.3	9.4	4.0	4.4	4.0
ADJUNCTIVE SERVICES**	5.9			6.4			5.5		
PALLIATIVE/EMERGENCY**	6.3			6.7			4.4		
OPERATIVE DENTISTRY	27.7	38.0	37.5	37.0	43.0	42.6	14.2	7.2	7.0
ENDODONTICS	7.6	6.2	7.1	6.5	6.5	7.2	10.7	4.6	6.6
PROSTHETICS	17.6	14.4	14.8	13.7	16.3	16.9	26.2	2.5	
PERIODONTICS	5.8	5.0	4.9	3.8	4.3	4.3	0.4	8.8	8.8
ORTHODONTICS	3.7	7.6	7.6	1.1	2.4	2.1	8.6	39.8	39.7
ORAL SURGERY	11.0	6.5	6.5	10.8	4.0	4.1	12.9	22.3	20.7
GENERAL PRACTICE***		3.4	3.4		3.5	3.6		2.9	3.1

*Source: 1982 Survey of Dental Practice.

**The Army survey asked for ADJUNCTIVE and PALLIATIVE/EMERGENCY SERVICES in separate categories.

***The ADA survey asked for GENERAL PRACTICE activities.

TABLE 6

Percentage of All Dentists Using Specified Types of Equipment, Four-Handed Dentistry Techniques, Mean number of Chairside Assistants, and Mean number of operatories used

	ALL DENTISTS			GENERAL DENTISTS			SPECIALISTS		
	ARMY	SOLO*	INDEP*	ARMY	SOLO*	INDEP*	ARMY	SOLO*	INDEP*
COMPOSITE LIGHT CURE	50.3	47.7	49.3	64.9	52.1	54.3	38.9	18.0	17.8
FIBER OPTIC HANDPIECE	61.7	26.0	27.8	72.3	28.4	30.7	59.8	9.9	9.8
PANORAMIC X-RAY	81.4	27.3	31.5	89.2	23.5	28.0	88.7	52.2	36.3
ELECTROSURGICAL UNIT	29.7	36.8	39.5	34.8	38.4	41.3	29.1	26.1	28.2
NITROUS OXIDE ANALGESIA	28.6	45.4	49.6	28.3	46.6	50.9	36.3	37.7	41.5
% "4-HANDED DENTISTRY"	62.4	54.2	57.3	71.3	55.4	58.9	48.6	46.1	46.9
NO. OF CHAIRSIDE ASSTN.	1.5	1.2	1.5	1.6	**	**	1.5	**	**
NO. OF OPERATORIES USED	1.8	2.6	3.2	1.8	2.6	3.1	1.7	3.1	3.8

*Source: 1982 Survey of Dental Practice.

**Data given only for "all dentists."

TABLE 7

Number of Appointments, Patient Visits Per Week, and Waiting Times For Patients of Record

	ALL DENTISTS						GENERAL DENTISTS						SPECIALISTS					
	ARMY		SOLO*		INDEP*		ARMY		SOLO*		INDEP*		ARMY		SOLO*		INDEP*	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Patient Appointments:																		
1. APPOINTMENTS/WEEK	43.4	40	58.1	50	58.9	50	45.5	43	53.6	50	54.1	50	40.3	36	90.4	70	91.0	70
2. WALK-IN PATIENTS/WEEK	8.9	5	2.5	1	2.6	1	8.7	5	2.6	1	2.7	1	9.3	5	2.0	0	2.1	0
3. EMERGENCY VISITS/WEEK	9.2	5	4.7	4	4.9	4	10.1	6	4.7	4	4.9	4	7.7	5	4.9	3	5.2	4
4. PATIENT FAILURES/WEEK	4.7	4	3.0	0	3.4	0	4.8	5	2.9	0	3.2	0	3.0	2	3.6	0	4.7	0
5. NUMBER OF PATIENTS/WEEK**	56.8	46	62.1	55	63.0	55	59.5	49	58.1	54	58.7	54	54.3	44	92.2	70	94.9	72
Patient Waiting Times:																		
6. FIRST APPOINTMENT (DAYS)	18.2	14	6.7	5	6.8	5	16.1	14	6.8	5	6.9	5	18.2	14	5.9	3	5.7	3
7. TIME IN THE WAITING ROOM (Minutes)	6.3	5	7.5	5	7.8	5	7.5	5	7.4	5	7.7	5	7.7	5	7.8	5	8.7	8

*Source: 1982 Survey of Dental Practice.

**((1+2+3)-4) above

TABLE 8

BUSYNESS

	ALL DENTISTS			GENERAL DENTISTS			SPECIALISTS		
	ARMY	SOLO*	INDEP*	ARMY	SOLO*	INDEP*	ARMY	SOLO*	INDEP*
TOO BUSY TO TREAT ALL	21.3	5.5	4.8	18.2	6.2	5.5	26.4	0.5	0.4
WAS OVERWORKED	38.5	9.9	9.8	38.3	10.3	10.3	39.0	7.3	7.1
PROVIDED CARE/NOT OVERWKED	38.1	50.2	50.5	40.7	50.6	50.8	34.0	47.6	49.2
NOT BUSY ENOUGH	2.1	34.5	34.8	2.8	33.0	33.5	1.2	44.5	43.3

*Source: 1982 Survey of Dental Practice.

TABLE 9

COMPARISONS OF MEAN TIMES BETWEEN SPECIALTY GROUPS

Groups:

General dentists (A), General Dentistry specialists (B), General dentists and General Dentistry specialists (AB), Oral Medicine and Oral Pathologists (CP), Periodontists (D), Endodontists (E), Fixed Prosthodontists (F), Removable Prosthodontists (G), Pedodontists (K), Orthodontists (M), Oral Surgeons (N)

	mean time		mean time		mean time		mean time	
ORAL DIAGNOSIS	Am	CPm	Bm	CPm	ABm	CPm	Am	B
0140 COMPREHENSIVE EX	10	14	13	14	10	14	10	13m
0130 OTHER EXAM	4	6	4	6	4	6	4	4
0120 ORAL EXAM ANNUAL	6	7	5	7	6	7	6	5
PEDODONTICS	mean time		mean time		mean time		mean time	
	Am	Km	Bm	Km	ABm	Km	Am	Bm
2960 RUBBER DAM	4	3	3	3	4	3	4	3
2150 AMALGAM 2 SURFAC	14	10	15	10	14	10	14	15
2140 AMALGAM 1 SURFAC	9	7	9	7	9	7	9	9
2940 TEMPORARY REST	8	5	6	5	7	5	8	6
7110 TOOTH REMOVAL	7	5	6	5	7	5	7	6
6719 CR STAINLESS INT	17	8	13	8	16	8	17	13
2954 INTERMEDIATE BAS	2	1	2	1	2	1	2	2
2952 RESTORATION POLI	4	2	4	2	4	2	4	4
1120 CHILD PROPHYLAXIS	12	10	14	10	12	10	12	14
3110 PULPTOMY DECIDUOUS	13	8	26	8	13	8	13	26
6720 STAINLESS ST CR PERM	19	13	22	13	19	13	19	22
2336 RESIN COMPLEX	15	11	14	11	15	11	15	14
8511 REMBL APP ADJ	9	8	7	8	9	8	9	7
2320 RESIN SIMPLE	10	8	9	8	10	8	10	9
2341 GLAZING	2	1	2	1	2	1	2	2
3120 PULPTOMY PERMANENT	3	2	3	2	3	2	3	3
8410 BANDING	8	6	11	6	8	6	8	11
2340 ACID ETCH	2	2	2	2	2	2	2	2
1240 TOPICAL APPLICATION	4	5	4	5	4	5	4	4
ENDODONTICS	mean time		mean time		mean time		mean time	
	Am	Em	Bm	Em	ABm	Em	Am	Bm
3333 MOLAR 3-CANALS	44	27	32	27	42	27	44	32
3311 ANTERIOR 1 CANAL	28	19	26	19	28	19	28	26
3322 PREMOLAR 2 CANAL	36	23	30	23	35	23	36	30
3321 PREMOLAR 1 CANAL	32	21	23	21	31	21	32	23
3334 MOLAR 4 CANALS	43	27	53	27	44	27	43	53
3360 ENDO INTERIM TX	25	22	22	22	25	22	25	22
3230 PUPLECTOMY TOT	21	19	19	19	21	19	21	19
3220 PULPOTOMY PART	16	13	16	13	16	13	16	16
3410 APICOECTOMY	35	23	20	23	33	23	35	20
3960 BLEACHING	15	14	10	14	15	14	15	10
3231 PUPLECTOMY PARTI	21	22	22	22	21	22	21	22

TABLE 9 (CONTINUED)

PERIODONTICS	mean time Am Dm	mean time Bm Dm	mean time ABm Dm	mean time Am Bm
4210 GINGIVECTOMY	13 10	1. 10	13 10	13 11
4260 OSSEOUS SURGERY	16 11	12 11	15 11	16 12
4342 PERIO SCALE	5 4	4 4	5 4	5 4
4240 GINGIVAL FLAP	11 9	11 9	11 9	11 11
4331 OCCLUSAL ADJ COM	32 26	27 26	30 26	32 27
4343 PERIO SCALE AND	9 9	9 9	9 9	9 9
4230 DISTAL WEDGE	8 9	4 9	6 9	8 4
4220 GINGIVAL CURETTA	8 8	5 8	7 8	8 5
4330 OCCLUSAL ADJ LIM	8 10	10 10	8 10	8 10
4250 MUCOGINGIVAL FLA	7 9	5 9	6 9	7 5

REMOVABLE PROSTHETICS	mean time Am Gm	mean time Bm Gm	mean time ABm Gm	mean time Am Bm
5110 MAXILLARY COMP	23 18	21 18	23 18	23 21
5206 CAST MET MAN RES	22 18	21 18	22 18	22 21
5120 MANDIBULAR COMP	23 18	21 18	22 18	23 21
5205 CAST MET MAX RES	22 20	23 20	22 20	22 23
5621 REPAIR RPD	18 16	18 16	18 16	18 18
5201 RESIN MAXILLARY	19 18	19 18	19 18	19 19
5731 RELINE COMP MAX	19 18	26 18	21 18	19 26
5611 REPAIR COMP DTR	17 21	16 21	17 21	17 16

FIXED PROSTHETICS	mean time Am Fm	mean time Bm Fm	mean time ABm Fm	mean time Am Bm
6712 CR ACRYL AUTOPOL	17 9	16 9	17 9	17 16
6718 DOWEL AND CORE	21 12	19 12	21 12	21 19
6719 CR STAINLESS INT	17 11	13 11	16 11	17 13
6750 CR PFM	23 16	18 16	21 16	23 18
6790 CR COMP MET	28 20	29 20	28 20	28 29
6611 STAIN AND GLAZE	13 8	17 8	14 8	13 17
6130 RET PFM	18 11	12 11	16 11	18 12
6240 PONTIC PFM	14 10	10 10	13 10	14 10

ORAL SURGERY	mean time Am Nm	mean time Bm Nm	mean time ABm Nm	mean time Am Bm
7130 TOOTH REM IMP	16 9	14 9	15 9	16 14
7120 TOOTH REM COMP	14 6	11 6	13 6	14 11
7110 TOOTH REMOVAL	7 4	6 4	7 4	7 6
7310 ALVEOLOPLASTY W	6 4	7 4	6 4	6 7
7511 INCISION DRAINAG	10 9	9 9	9 9	10 9
7412 EXCISION SOFT TI	3 3	3 3	3 3	3 3
7815 MPD TX	18 21	16 21	18 21	18 16
7902 OSTEITIS TX	4 5	4 5	4 5	4 4

ORTHODONTICS	mean time Am Mm	mean time Bm Mm	mean time ABm Mm	mean time Am Bm
8511 REMBL APP ADJ	9 6	7 6	9 6	9 7
8513 LIGATION ADJ	6 4	6 4	6 4	6 6
8410 BANDING	8 7	11 7	8 7	8 11
8510 ARCHWIRE ADJUST	7 6	6 6	7 6	7 6

TABLE 10

NUMBER, MEAN TIMES, STANDARD DEVIATIONS (sd), COEFFICIENTS OF VARIATION (cv) OF TIMES TO PERFORM SELECTED DENTAL PROCEDURES BY GENERALISTS AND SPECIALISTS.

	GENERAL DENTISTS				GEN. DENT. SPECIALISTS				GENERAL DENT. COMBINED				SPECIALIST CATEGORY ORAL PATHOLOGY SPEC.			
ORAL DIAGNOSIS	number	mean	sd	cv	number	mean	sd	cv	number	mean	sd	cv	number	mean	sd	cv
120 ORAL EXAM ANNUAL	25561	5.772	14.96	259.2	6391	5.199	4.521	86.95	31952	5.657	7.258	128.2	720	7.392	5.131	69.41
130 OTHER EXAM	42957	4.152	5.427	130.7	7103	4.185	12.44	297.3	50037	4.156	6.422	154.5	317	5.697	3.872	67.96
140 COMPREHENSIVE EX	3969	10	12.90	129.0	617	12.52	10.42	83.22	4586	10.33	12.57	121.5	205	14	9.269	66.20
PEDODONTICS													PEDODONTISTS			
1120 CHILD PROPHYLAXI	589	12.32	7.74	62.82	33	13.51	18.41	136.2	622	12.38	8.306	67.07	1519	10.22	6.38	62.42
1240 TOPICAL APPLICAT	6043	3.94	13.3	337.5	780	3.63	4.65	128.0	6823	3.904	12.31	315.3	1611	4.61	2.3	49.89
2140 AMALGAM 1 SURFAC	15308	8.04	8.23	92.05	1418	8.58	7.45	86.82	16726	8.909	8.163	91.63	892	6.52	5.77	88.49
2320 RESIN SIMPLE	3453	10.23	8.02	78.39	479	9.37	6.46	68.94	3932	10.12	7.829	77.33	129	8.3	5.41	65.18
2336 RESIN COMPLEX	4855	15.13	14.58	96.36	525	14.41	11.03	76.54	5380	15.05	14.23	94.51	135	11.15	10.12	90.75
2340 ACID ETCH	6487	1.83	2.31	126.2	751	2.06	5.67	275.2	7238	1.853	2.658	143.4	424	2.14	2.7	126.1
2341 GLAZING	3583	1.68	2.59	154.1	367	1.95	2.72	139.4	3950	1.705	2.602	152.6	91	1.21	1.63	134.7
2940 TEMPORARY REST	7224	7.58	16.16	213.1	1115	6.32	5.97	94.46	8339	7.411	14.79	199.6	181	4.5	3.69	82
2952 RESTORATION POLI	5372	3.84	8.54	222.3	1366	4.19	5.38	128.4	6738	3.910	7.899	201.9	201	2.47	2.65	107.2
2954 INTERMEDIATE BAS	32947	1.71	3.54	207.0	3277	1.74	1.92	110.3	36224	1.712	3.393	198.1	1338	1.378	1.63	118.2
2960 RUBBER DAM	15628	3.73	2.62	70.24	1951	3.25	1.96	60.30	17579	3.676	2.546	69.26	1107	2.66	1.89	71.05
6719 CR STAINLESS INT	379	16.92	16.39	96.86	149	13.11	11.43	87.18	528	15.84	14.99	94.60	237	8.34	7.64	91.60
6720 CROWN STAIN. STEP	144	19.04	14.79	77.67	15	21.8	11.63	53.34	159	19.30	14.49	75.08	334	12.5	13.22	105.7
7110 TOOTH REMOVAL	4748	7.27	8.83	121.4	1005	6.12	6.73	109.9	5753	7.069	8.463	119.7	458	4.89	5.11	104.4
8410 BANDING	101	7.77	6.65	85.58	5	10.78	7.76	71.98	106	7.911	6.702	84.71	242	6.25	5.27	84.32
8511 REMBL APP ADJ	217	9.47	6.011	63.47	49	7.41	5.38	72.60	266	9.090	5.894	64.84	299	7.51	4.99	66.44
ENDODONTICS																
3220 PULPOTOMY PARTIA	1521	16.46	25.68	156.0	114	15.58	10.17	65.27	1635	16.39	24.59	150.0	99	12.8	11.83	92.42
3230 PUPLECTOMY TOT	1319	21.1	14.71	69.71	237	19.1	13.04	68.27	1556	20.79	14.45	69.51	997	19.13	16.03	83.79
3231 PUPLECTOMY PARTI	237	20.9	17.5	83.73	32	21.6	12.16	56.29	269	20.98	16.86	80.37	117	22.31	21.62	96.90
3311 ANTERIOR 1 CANAL	480	28.39	19.28	67.91	73	25.02	19.86	76.91	553	28.05	19.35	69.00	385	19.19	17.53	91.34
3321 PREMOLAR 1 CANAL	175	31.98	19.4	60.66	20	23.25	14.64	62.96	195	31.08	18.91	60.83	143	20.8	19.01	91.39
3322 PREMOLAR 2 CANAL	149	36.14	21.26	58.82	32	30.21	22.02	72.88	181	35.09	21.39	60.96	156	23.44	18.51	78.96
3333 MOLAR 3-CANALS	345	43.04	26.02	59.35	72	32.34	22.89	70.77	417	41.85	25.47	60.87	418	26.68	20.71	77.62
3334 MOLAR 4 CANALS	64	43.03	22.08	51.31	10	53	38.6	72.83	74	44.37	24.31	54.78	152	27.1	17.18	63.39
3360 ENDO INTERIM TX	1621	25.48	23.03	90.38	228	22.15	15.51	70.02	1849	25.06	22.10	88.16	1391	22.28	18.07	81.10
3410 APICOECTOMY	33	34.94	23.92	68.46	6	20.43	11.64	56.97	39	32.70	22.03	67.35	53	23.06	20.63	89.46
3960 BLEACHING	135	15.32	11.97	78.13	19	10.28	8.8	85.60	154	14.69	11.57	78.77	77	14.39	14.49	100.6

TABLE 10

CONTINUED

PERIODONTICS	GENERAL DENTISTS				GEN DENT. SPECIALISTS				GEN. DENTISTS COMBINED				PERIODONTISTS			
	number	mean	sd	cv	number	mean	sd	cv	number	mean	sd	cv	number	mean	sd	cv
4210 GINGIVECTOMY	359	13.36	10.8	80.83	108	11.3	9.23	81.68	467	12.88	10.43	81.00	269	10.36	8	77.22
4220 GINGIVAL CURETTA	582	7.6	8.95	117.7	169	5.07	5.21	102.7	751	7.030	8.108	115.3	501	8.13	7.45	91.63
4230 DISTAL WEDGE	118	8.36	7.7	92.10	133	4.33	2.92	67.43	251	6.224	5.167	83.01	187	9.1	6.89	75.71
4240 GINGIVAL FLAP	128	11.39	14.28	125.3	34	11.39	9.45	82.96	162	11.39	13.26	116.4	170	9.15	9.21	100.6
4250 MUCOGINGIVAL FLA	654	6.53	11.06	169.3	123	5.14	5.39	104.8	777	6.309	10.16	161.0	435	9.23	10.13	109.7
4260 OSSEOUS SURGERY	121	15.54	11.09	71.36	38	12.16	10.29	84.62	159	14.73	10.89	73.97	410	11.33	11.55	101.9
4330 OCCLUSAL ADJ LIM	5406	8.05	16.54	205.4	1045	9.64	0.282	2.925	6451	8.307	13.90	167.3	135	10.16	7.78	76.57
4331 OCCLUSAL ADJ COM	267	31.91	46.06	144.3	139	27.11	22.58	83.29	406	30.26	38.02	125.6	74	25.57	27.2	106.3
4342 PERIO SCALE	3366	5.37	16.74	311.7	658	4.27	11.7	274.0	4024	5.190	15.91	306.6	422	4.17	5.83	139.8
4343 PERIO SCALE AND	1819	8.88	11.56	130.1	326	9	9.46	105.1	2145	8.898	11.24	126.3	1755	8.74	12.73	145.6
REMOVABLE PROSTHETICS													REM. PROSTHODONTISTS			
5110 MAXILLARY COMP	186	23.37	22.46	96.10	41	21.07	15.52	73.65	227	22.95	21.20	92.38	222	17.81	12.09	67.88
5120 MANDIBULAR COMP	116	22.51	23.65	105.0	19	21.37	15.09	70.61	135	22.34	22.44	100.4	133	18.29	10.84	59.26
5201 RESIN MAXILLARY	193	19.17	14.41	75.16	59	18.59	14.57	78.37	252	19.03	14.44	75.90	143	18.05	10.08	55.84
5205 CAST MET MAX RES	118	22.19	16.51	74.40	42	22.85	15.54	68.00	160	22.36	16.25	72.68	177	19.51	11.37	58.27
5206 CAST MET MAN RES	160	22.3	19.69	88.29	61	21.25	14.54	68.42	221	22.01	18.26	83.00	256	18.44	11.99	65.00
5611 REPAIR COMP DTR	184	16.71	22.25	133.1	58	16.04	16.6	103.4	242	16.54	20.89	126.2	153	20.71	20.35	98.26
5621 REPAIR RPD	344	17.59	18.97	107.8	139	17.99	36.03	200.2	483	17.70	23.87	134.8	316	15.73	18.31	116.4
5731 RELINE COMP MAX	179	18.75	13.97	74.50	62	25.86	17.76	68.67	241	20.57	14.94	72.62	201	18.19	9.39	51.62
FIXED PROSTHODONTICS													FIXED PROSTHODONTISTS			
6130 RET PFM	258	17.63	22.27	126.3	103	12.34	13.57	109.9	361	16.12	19.78	122.7	232	11.26	15.66	139.0
6240 PONTIC PFM	279	13.58	18.15	133.6	126	10.24	10.33	100.8	405	12.54	15.71	125.3	281	10.19	17.77	174.3
6611 STAIN AND GLAZE	361	13.18	18.09	137.2	153	16.59	15.42	92.94	514	14.19	17.29	121.8	388	8.17	18.37	224.8
6712 CR ACRYL AUTOPOL	820	17.02	17.82	104.7	250	15.9	16.06	101.0	1070	16.75	17.40	103.8	519	9.39	11.4	121.4
6718 DOWEL AND CORE	375	21.11	16.59	78.58	122	18.86	13.82	73.27	497	20.55	15.91	77.39	132	12.22	7.18	58.75
6719 CR STAINLESS INT	379	16.92	16.39	96.86	149	13.11	11.43	87.18	528	15.84	14.99	94.60	123	11.12	8.84	79.49
6750 CR PFM	498	22.52	21.68	96.26	211	18.18	17.38	95.59	709	21.22	20.40	96.09	341	16.04	19.65	122.5
6790 CR COMP MET	414	27.51	21.74	79.02	102	28.63	25.19	87.98	516	27.73	22.42	80.85	185	20.16	18.08	89.68
ORAL SURGERY													ORAL SURGEONS			
7110 TOOTH REMOVAL	4748	7.27	8.83	121.4	1005	6.12	6.73	109.9	5753	7.069	8.463	119.7	486	4.1	5.86	142.9
7120 TOOTH REM COMP	2658	13.54	22.02	162.6	443	11.29	12.83	113.6	3101	13.21	20.70	156.6	389	6.15	7.87	127.9
7130 TOOTH REM IMP	2759	15.54	15.13	97.36	575	13.97	14.53	104.0	3334	15.26	15.02	98.41	848	9.48	10.09	106.4
7310 ALVEOLOPLASTY W	1292	5.88	6.62	112.5	235	6.51	6	92.16	1527	5.976	6.524	109.1	264	4.44	4.13	93.01
7412 EXCISION SOFT TI	768	2.9	5.5	189.6	262	2.62	3.05	116.4	1030	2.828	4.876	172.3	94	2.96	5.68	191.8
7511 INCISION DRAINAG	321	9.68	8.09	83.57	70	8.51	8.49	99.76	391	9.470	8.161	86.17	114	8.71	9.16	105.1
7815 MPD TX	81	17.97	14.89	82.86	9	16.44	14.74	89.65	90	17.81	14.87	83.48	94	21.1	13.48	63.88
7902 OSTEITIS TX	680	4.24	2.98	70.28	272	3.78	3.74	98.94	952	4.108	3.197	77.81	180	4.68	3.1	66.23
ORTHODONTICS													ORTHODONTISTS			
8410 BANDING	101	7.77	6.65	85.58	5	10.78	7.76	71.98	106	7.911	6.702	84.71	351	7.33	7.69	104.9
8510 ARCHWIRE ADJUST	176	7.48	32.6	435.8	6	6.25	8.47	135.5	182	7.439	31.80	427.5	916	6.14	4.94	80.45
8511 REMBL APP ADJ	217	9.47	6.011	63.47	49	7.41	5.38	72.60	266	9.090	5.894	64.84	761	5.58	4.71	84.40
8513 LIGATION ADJ	139	5.61	5.79	103.2	6	6.33	4.84	76.46	145	5.639	5.750	101.9	1197	4.02	3.99	99.25

APPENDIX C

SURVEY OF MILITARY DENTAL PRACTICE

SURVEY OF MILITARY DENTAL PRACTICE

OFFICER CHARACTERISTICS

DATE (DAY / MONTH)	POST CODE	LAST FOUR SSN	AGE	SSI & ASI
			63	9

RANK	YEARS OF DENTAL PRACTICE: CIVILIAN	YEARS OF DENTAL PRACTICE: MILITARY	YEAR OF GRADUATION FROM: DENTAL SCHOOL (19)	YEAR OF GRADUATION FROM: SPECIALITY (19)	YEARS TO RETIRE	YEAR OF LAST PROMOTION (19)	NUMBER OF PCS MOVES
COL							
MAJ	0 0	0 0	0 0	0 0	0 0	0 0	0 0
	1 1	1 1	1 1	1 1	1 1	1 1	1 1
LTC	2 2	2	2 2	2 2	2 2	2 2	2 2
	3 3	3	3 3	3 3	3 3	3 3	3 3
COL	4 4	4	4 4	4 4	4 4	4 4	4 4
	5 5	5	5 5	5 5	5 5	5 5	5 5
BG	6 6	6	6 6	6 6	6 6	6 6	6 6
	7 7	7	7 7	7 7	7 7	7 7	7 7
MG	8 8	8	8 8	8 8	8 8	8 8	8 8
	9 9	9	9 9	9 9	9 9	9 9	9 9

COMMISSION

RA USAR

THE MOST ACCURATE DESCRIPTION(S) OF YOUR DUTY ASSIGNMENT(S)

- PROGRAM DIRECTOR
- CLINICAL DENTIST
- CLINIC OIC
- COMMANDER
- ADL OFFICER
- HQ STAFF
- AHS INSTRUCTOR
- RESEARCH POSITION
- STUDENT

IF STUDENT PLEASE INDICATE.

- GEN DENT
- FIXED PROS
- REM PROS
- ORTHO
- PERIO
- ORAL SURG
- ENDO
- OFF BASIC
- OFF ADVANCED
- C & GS
- WAR COLLEGE
- PUBLIC HEALTH
- ORAL MED PATH
- OTHER

ADDITIONAL DUTIES YOU MAY HAVE:

- PREV DENT OFF
- PT OFF
- DEP CDR
- SUPPLY OFF
- EDUCATION OFF
- PREVENTIVE MEDICINE OFF
- OTHER ADMIN DUTIES
- NONE

MEDALS AND BADGES YOU HAVE:

- ARMY AUTH MEDAL
- ARCOM
- MSM
- LOM
- EMB
- SILVER STAR
- BRONZE STAR
- PURPLE HEART
- OTHER

MILITARY TRAINING:

- OFFICER BASIC
- OFFICER ADVANCED
- C & GS
- ARMED FORCES STAFF COLLEGE
- WAR COLLEGE
- OTHER

CIVILIAN DEGREES:

- BS BA
- DDS DMD
- MSD
- MS
- MA
- MPH
- MBA
- MD
- PhD
- OTHER ADVANCED DEGREES

AUXILLARY PERSONNEL

1 NUMBER OF PERSONNEL WHO WORK DIRECTLY WITH YOU

MILITARY

A. CHAIRSIDE ASSISTANT(S)	0	1	2	3	+
B. EXPANDED DUTY ASSTS	0	1	2	3	+
C. DENTIST (NO EXPANDED DUTY)	0	1	2	3	+

CIVILIAN

A. CHAIRSIDE ASSISTANT(S)	0	1	2	3	+
B. EXPANDED DUTY ASSTS	0	1	2	3	+
C. DENTIST (NO EXPANDED DUTY)	0	1	2	3	+

2. OF THESE PERSONNEL, WHO PERFORMS THESE SELECTED PROCEDURES?

	DENTIST	DTA AND OR HYGIENIST	CHAIRSIDE ASSISTANT	NOT ROUTINELY PERFORMED
TAKING IMPRESSIONS FOR STUDY CASTS	1	2	3	4
REMOVING SUTURES AND DRESSINGS	1	2	3	4
PLACING AMALGAM RESTORATIONS	1	2	3	4
CARVING AND FINISHING AMALGAM RESTORATIONS	1	2	3	4
PLACING AND FINISHING COMPOSITE RESTORATIONS	1	2	3	4
ADMINISTERING LOCAL ANESTHETIC AGENTS	1	2	3	4
SEALANT APPLICATION	1	2	3	4
ORAL HYGIENE COUNSELING	1	2	2	4
ORAL PROPHYLAXIS	1	2	1	4
SCALING	1	2	-	4
TAKING X RAYS	1	2	1	4
COMPLETING RECORDS	1	-	1	4

04029

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DO NOT MARK IN THIS AREA

DUTY/PRACTICE CHARACTERISTICS

1 SINCE ENTERING THE DENTAL CORPS, HAVE YOU ALWAYS TREATED PATIENTS?

YES

NO

2 INDICATE THE NUMBER OF YEARS TREATING PATIENTS IN THE DENTAL CORPS.

0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

3. HOW MANY DENTISTS ARE IN YOUR DENTAL CLINIC?

4 DURING THE PAST YEAR, APPROXIMATELY HOW MANY HOURS PER WEEK DID YOU SPEND IN THE FOLLOWING ACTIVITIES?

	TREATING PATIENTS	LABORATORY PROCEDURES	COMPLETING DENTAL RECORDS AND FORMS	CONSULTATIONS	CONTINUING DENTAL EDUCATION	PREPARING AND GIVING LECTURES	PROFESSIONAL READING	MILITARY TRAINING	TRAINING AUXILLIARIES	PERSONNEL/MILITARY MATTERS
15 MIN = .25	.25 .50	.25 .50	.25 .50	.25 .50	.25 .50	.25 .50	.25 .50	.25 .50	.25	.25
	HRS/WEEK	HRS/WEEK	HRS/WEEK	HRS/WEEK	HRS/WEEK	HRS/WEEK	HRS/WEEK	HRS/WEEK	HRS/WEEK	HRS/WEEK
30 MIN = .50										
45 MIN = .25 + .50										
	0	0	0	0	0	0	0	0	0	0
	1	1	1	1	1	1	1	1	1	1
	2	2	2	2	2	2	2	2	2	2
	3	3	3	3	3	3	3	3	3	3
	4	4	4	4	4	4	4	4	4	4
	5	5	5	5	5	5	5	5	5	5
	6	6	6	6	6	6	6	6	6	6
	7	7	7	7	7	7	7	7	7	7
	8	8	8	8	8	8	8	8	8	8
	9	9	9	9	9	9	9	9	9	9

5 IN A TYPICAL WEEK, WHAT PERCENTAGE (%) OF YOUR TIME TREATING PATIENTS IS DEVOTED TO EACH OF THE FOLLOWING

TOTAL = 100%

	DIAGNOSTIC PROCEDURES (EXAMS, X-RAYS, ETC.)	PREVENTION (FLUORIDE TR., PT. EDUCATION)	ADJUNCTIVE SERVICES, (ANESTHESIA, PT. HANDLING ETC.)	PALLATIVE/ EMERGENCY	OPERATIVE DENTISTRY	ENDODONTICS	REMOVABLE PROSTHETICS	FIXED PROSTHETICS	PERIODONTICS	ORTHODONTICS	ORAL SURGERY
	% /WEEK	% /WEEK	% /WEEK	% /WEEK	% /WEEK	% /WEEK	% /WEEK	% /WEEK	% /WEEK	% /WEEK	% /WEEK
	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
	1 1	1 1	1 1	1 1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2
	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3	3 3
	4 4	4 4	4 4	4 4	4 4	4 4	4 4	4 4	4 4	4 4	4 4
	5 5	5 5	5 5	5 5	5 5	5 5	5 5	5 5	5 5	5 5	5 5
	6 6	6 6	6 6	6 6	6 6	6 6	6 6	6 6	6 6	6 6	6 6
	7 7	7 7	7 7	7 7	7 7	7 7	7 7	7 7	7 7	7 7	7 7
	8 8	8 8	8 8	8 8	8 8	8 8	8 8	8 8	8 8	8 8	8 8
	9 9	9 9	9 9	9 9	9 9	9 9	9 9	9 9	9 9	9 9	9 9

USE NO. 2 PENCIL ONLY

6. ON A TYPICAL DAY, HOW MANY OPERATORIES DID YOU USE TO TREAT PATIENTS?

1 2 3 4 5 6

7. WHAT PERCENTAGE OF TREATMENT WAS PROVIDED USING THE TECHNIQUES OF "FOUR-HANDED" DENTISTRY? %

8. PLEASE ESTIMATE THE TOTAL NUMBER OF DIFFERENT PATIENTS TREATED DURING A TYPICAL WEEK.

9. PLEASE INDICATE THE FOLLOWING REGARDING PATIENT CARE THAT YOU PERSONNALLY PROVIDED DURING PAST YEAR:

APPOINTMENTS SCHEDULED PER WEEK	WALK-IN PATIENT VISITS PER WEEK	EMERGENCY VISITS PER WEEK	PATIENT FAILURES PER WEEK	ROUTINE PATIENTS TREATED PER WEEK
AV/WEEK	AV/WEEK	AV/WEEK	AV/WEEK	AV/WEEK

10. EQUIPMENT/MATERIALS UTILIZED IN YOUR PRACTICE INCLUDES:

- OCC SEALANTS
- COMPOSITE LIGHT CURE
- FIBER OPTIC HANDPIECE
- PANORAMIC X-RAY
- ELECTROSURGICAL UNIT
- NITROUS OXIDE ANALGESIA

11. ADDITIONAL QUESTIONS

NUMBER OF STATE DENTAL LICENSES	0	1	2	3	4	5+
NUMBER OF PROFESSIONAL ORGANIZATION MEMBERSHIPS	0	1	2	3	4	5+
NUMBER OF PROFESSIONAL ARTICLES PUBLISHED	0	1	2 5	6 10	11 20	21+
DUTY DAYS LOST TO ILLNESS	0	LESS THAN A WEEK	LESS THAN A MONTH	MORE THAN A MONTH		
NUMBER OF PROF... MEETINGS ATTENDED ... YEAR	0	1	2	3	4	5+

12A. LABORATORY PROCEDURES YOU COMPLETE INCLUDES

12B. YOUR CLINIC LABORATORY OUT-PUT INCLUDES?

- NO CLINIC LABORATORY
- DENTURES
- CROWNS
- PORC VENEER CROWNS
- CAST PARTIAL DENTURES
- CAST DOWEL CORE
- SPACE RETAINERS
- OTHER

12C. WORK SENT TO ADL INCLUDES

- DENTURES
- CROWNS
- PORC VENEER CROWNS
- CAST PARTIAL DENTURES
- CAST DOWEL CORE
- SPACE RETAINERS
- OTHER

13. THE FOLLOWING PERTAINS TO PATIENT WAITING TIMES

FOR AN INITIAL APPOINTMENT SERIES?	FOR THE NEXT APPOINTMENT	IN THE RECEPTION ROOM PAST APPOINTMENT TIME FOR TREATMENT
LESS THAN 1 WEEK OR IN WEEKS	LESS THAN 1 WEEK OR IN WEEKS	MINUTES

12D. DOES YOUR CLINIC HAVE A DENTAL LABORATORY?

YES

NO

12E. HOW MANY TECHNICIANS WORK IN THIS LAB?

12F. THE AVERAGE TURN-AROUND TIME FROM THE ADL FOR MOST WORK (IN WEEKS)

MAKE NO STRAY MARKS ON THIS FORM

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14. PLEASE PROVIDE THE FOLLOWING INFORMATION FOR EACH PROCEDURE/TASK LISTED BELOW

	PERIODIC ORAL EXAMINATION (EXCLUDING RADIOGRAPHS)	ONE-SURFACE AMALGAM (PERMANENT) INCLUDING POLISHING	TWO-SURFACE AMALGAM (PERMANENT) INCLUDING POLISHING	THREE-SURFACE AMALGAM (PERMANENT) INCLUDING POLISHING	SINGLE FULL CAST GOLD CROWN	COMPLETE ANTERIOR ROOT CANAL TREATMENT (WITH TREATMENT PLAN, WITHOUT RESTORATION)	COMPLETE UPPER ACRYLIC-BASE DENTURE (INCLUDING SIX MONTH DELIVERY CARE)	SINGLE TOOTH EXTRACTION (INCLUDING LOCAL ANESTHESIA AND POST OPERATIVE CARE)
	NOT DONE OR	NOT DONE OR	NOT DONE OR	NOT DONE OR	NOT DONE OR	NOT DONE OR	NOT DONE OR	NOT DONE OR
AV TIME (MIN) TO COMPLETE								
FAIR DOLLAR VALUE $								

15 APPROXIMATELY WHAT PERCENT OF YOUR PATIENTS WERE

AGE

	5%	5-10	10-25	25-50	50-75	75-90	100
19 YEARS OF AGE OR YOUNGER							
19 TO 35 YEARS							
35 TO 50 YEARS							
50 TO ABOVE							

PATIENT CATEGORIES

	5%	5-10	10-25	25-50	50-75	75-90	100%
ACTIVE DUTY MILITARY							
OTHER MILITARY							
ADULT DEPENDENTS							
CHILD DEPENDENTS							
RETIRED							
OTHER							
HANDICAPPED/DISADVANTAGED							

16. WHICH ONE OF THE FOLLOWING BEST DESCRIBES YOUR PRACTICE DURING THE PAST YEAR?

- TOO BUSY TO TREAT ANY MORE PATIENTS
- PROVIDED CARE TO ANY MORE PATIENTS BUT NOT OVERWORKED
- PROVIDED CARE TO MORE PATIENTS BUT OVERWORKED
- NOT BUSY ENOUGH TO HAVE REASONABLE

04029

DO NOT MARK IN THIS AREA

APPENDIX D

ADDITIONAL ARMY DATA

TABLE 1

SPECIALTY SKILL DISTRIBUTION WITHIN THE DENTAL CORPS

SSI	SPECIALTY*	DENTAL CORPS = 1767 n	%	SPECIALISTS = 634 n	%
63A	Dental Officer	1133	63.90		
63B	General Dentistry	197	11.11	197	31.1
63C	Oral Medicine/Pathology	22	1.24	22	3.5
63D	Periodontist	67	3.78	67	10.6
63E	Endodontist	50	2.82	50	7.9
63F	Fixed Prosthodontics	71	4.00	71	11.2
63G	Removable Prosthodontics	72	4.06	72	11.2
63H	Public Health Dentistry	12	0.68	12	1.9
63K	Pedodontics	40	2.26	40	6.3
63M	Orthodontics	41	2.31	41	6.5
63N	Oral Surgery	62	3.50	62	9.8

TABLE 2

Specialty Skill Distribution *

SSI	SPECIALTY*	ALL DENTISTS=1359	%	SPECIALISTS = 521 n=521	%
63A	Dental Officer	820	61.15		
63B	General Dentistry	165	12.30	165	31.67
63C	Oral Medicine/Pathology	13	0.96	13	2.50
63D	Periodontist	59	4.40	59	11.32
63E	Endodontist	46	3.43	46	8.83
63F	Fixed Prosthodontics	57	4.25	57	10.94
63G	Removable Prosthodontics	53	3.95	53	10.17
63H	Public Health Dentistry	5	0.37	5	0.96
63K	Pedodontics	35	2.61	35	6.72
63M	Orthodontics	40	2.98	40	7.68
63N	Oral Surgery	48	3.58	48	9.21

*18 invalid responses

TABLE 3

AGE, YEARS OF CIVILIAN/MILITARY PRACTICE, YEAR OF LAST PROMOTION, YEARS LEFT IN THE SERVICE, AND NUMBER OF DUTY STATION MOVES

ALL DENTISTS

	mean	median	mode	total	range
AGE OF RESPONDENT	37.70	35	31	****	****
YEARS OF CIVILIAN PRACTICE	1.04	0	0	1034	****
YEARS OF MILITARY PRACTICE	8.18	6	2	10640	****
YEAR OF DENTAL DEGREE	1974	1977	1982	****	'54-84
YEAR OF DENTAL SPECIALTY	****	****	****	****	'63-84
YEARS LEFT TO RETIRE	12.09	13	15	****	0-29
YEAR LAST PROMOTED	1980	1981	1980	****	'71-84
NO PCS MOVES	3.8	3	1	****	0-15

---

* ASTERISKS indicate that the data were not appropriate for that cell.

TABLE 4

AGE, YEARS OF CIVILIAN/MILITARY PRACTICE, YEAR OF LAST PROMOTION, YEARS LEFT IN THE SERVICE, AND NUMBER OF DUTY STATION MOVES

63A DENTAL OFFICERS

	mean	median	mode	total	range
AGE OF RESPONDENT	32.08	31	31	****	*****
YEARS OF CIVILIAN PRACTICE	1.03	0.0	0.0	712	*****
YEARS OF MILITARY PRACTICE	4.33	4	2	3428	*****
YEAR OF DENTAL DEGREE	1978	1979	1982	****	'55-84
YEAR OF DENTAL SPECIALTY	****	****	****	****	*****
YEARS LEFT TO RETIRE	15.11	16	15	****	0-25
YEAR LAST PROMOTED	1980	1981	1982	****	'71-84
NO PCS MOVES	2.1	2	1	****	0-13

---

* ASTERISKS indicate that the data were not appropriate for that cell.

TABLE 5

AGE, YEARS OF CIVILIAN/MILITARY PRACTICE, YEAR OF LAST PROMOTION, YEARS LEFT IN THE SERVICE, AND NUMBER OF DUTY STATION MOVES

DENTAL SPECIALISTS

	mean	median	mode	total	range
AGE OF RESPONDENT	41.25	40	37	****	*****
YEARS OF CIVILIAN PRACTICE	1.08	0.0	0.0	466	*****
YEARS OF MILITARY PRACTICE	15.00	13	11	7119	*****
YEAR OF DENTAL DEGREE	1968	1970	1972	****	'54-81
YEAR OF DENTAL SPECIALTY	1976	1977	1982	****	'63-84
YEARS LEFT TO RETIRE	7.6	8	8	****	0-25
YEAR LAST PROMOTED	1979	1980	1980	****	'71-84
NO PCS MOVES	6.4	6	5	****	0-15

---

* ASTERISKS indicate that the data were not appropriate for that cell.

TABLE 6

DISTRIBUTION OF RESPONDENTS(1) BY RANK

	ALL DENTISTS		63A DENT. OFFICERS		SPECIALISTS	
	n	%	n	%	n	%
Captain	568	44.30	560	72.4	8	1.59
Major	266	20.74	179	23.2	87	17.33
Lieutenant Colonel	241	18.79	27	3.5	214	42.63
Colonel	204	15.91	7	0.9	193	38.45
missing	77	*****		*****	19	*****

---

(1) Data is included for all ranks, Captain through Colonel.

* ASTERISKS indicate that the data were not appropriate for that cell.

TABLE 7

PRIMARY DUTY ASSIGNMENT*

	ALL DENT. %	63A %	SPEC. %
CLINICAL DENTIST	69.9	81.9	54.3
PROGRAM DIRECTOR	2.3	0.5	4.8
CLINIC OIC	14.4	6.3	25.2
COMMANDER	3.5	0.1	7.4
ADL OFFICER	0.3	0.1	0.6
HQ STAFF	1.0	0.4	1.9
AHS INTRUCTOR	0.3	0.2	0.5
RESEARCH POSITION	0.8	0.2	1.4
OTHER	7.4	10.4	3.7

TABLE 8

ADDITIONAL DUTIES**

	ALL DENT. %	63A %	SPEC %
PREV DEN OFF	16.0	21.6	8.6
PT OFF	5.2	5.8	4.4
DEP CDR	5.1	1.6	9.8
SUPPLY OFF	12.1	13.8	9.8
EDUCATION OFF	10.8	8.1	14.3
PREC METALS OFF	15.7	13.5	18.7
MENTOR	13.4	1.8	28.7
OTHER DUTIES	78.1	80.9	74.3

---

* Percentage of responses listed. Respondents are assigned one primary duty which is exclusive of other duties, thus total of resonses equal 100%.

** Percentage of cases listed. Respondents may be assigned several additional duties; total of responses may exceed 100%.

TABLE 9

MEDALS AND BADGES

	ALL DENTISTS	63A DENTAL OFF.	SPECIAL-ISTS
	%	%	%
ARMY ACH MEDAL	19.73	23.0	16.27
ARCOM	71.29	58.6	84.54
MSM	31.93	9.2	55.22
LOM	0.29	0.0	0.60
EFMB	27.15	35.4	18.67
SILVER STAR	1.37	0.0	0.00
BRONZE STAR	10.16	3.8	16.67
PURPLE HEART	0.98	0.4	1.61
OTHER	39.65	35.2	44.38

TABLE 10

MILITARY TRAINING

	ALL DENTISTS %	63A DENTAL OFF. %	SPECIAL-ISTS %
OFFICER BASIC	90.52	95.2	83.20
OFFICER ADVANCED	47.38	27.7	77.41
C&GS	6.29	1.5	13.51
AF STAFF COLLEGE	0.30	0.0	0.77
OTHER TRAINING	8.79	8.0	10.04

TABLE 11

CIVILIAN DEGREES

	ALL DENTISTS			63A-DENTAL OFFICER			SPECIALISTS		
	n=	% DENTIST	% DEGREE	n=	% DENTIST	% DEGREE	n=	% DENTIST	% DEGREE
BS/BA	1051	78.3	> BS/BA	700	85.5	> BS/BA	349	67.2	> BS/BA
MSD	25	1.9	10.12	0	0.0	0.0	25	4.8	13.74
MS	132	9.8	53.44	35	4.3	57.0	97	18.7	53.30
MA	30	2.2	12.15	13	1.6	21.7	16	3.1	8.79
MPH	6	0.4	2.43	0	0.0	0.0	6	1.0	2.75
MBA	5	0.4	2.02	3	0.4	4.9	2	0.4	1.10
PhD	4	0.3	1.62	0	0.0	0.0	2	0.4	1.10
OTHER	45	3.4	18.22	10	1.2	16.4	35	6.7	19.23

TABLE 12

WHO SHOULD PERFORM SELECTED PROCEDURES?

DATA GIVEN IN PERCENTAGE OF RESPONDENTS

RESPONSES FOR ALL DENTISTS

	DDS	DTA	ASST	NOT DONE
STUDY CAST IMPRRESS	54.9	10.7	34.4	8.8
REM SUTURES/DRESS	79.0	4.7	16.3	12.0
PLACE AMALGAM REST.	75.8	24.0	0.2	16.0
CARVE/FINISH AMALGAM	75.8	24.1	0.1	16.1
PLACE/FINISH COMPOSITE	75.5	23.4	1.1	16.0
ADM. LOCAL ANESTH.	100.0	0.0	0.0	5.5
SEALANT APPLICATION	75.4	21.6	3.0	47.7
ORAL HYGIENE INSTR	50.0	25.9	24.1	1.5
ORAL PROPHYLAXIS	32.0	59.9	8.1	24.0
SCALING	51.4	46.1	2.5	19.1
TAKING X-RAYS	15.6	11.2	73.2	20.9
COMPLETING RECORDS	66.7	11.0	22.7	0.5

TABLE 13

WHO SHOULD PERFORM SELECTED PROCEDURES?

DATA GIVEN IN PERCENTAGE OF RESPONDENTS

RESPONSES FOR GENERAL DENTISTS

	DDS	DTA	ASSN	NOT DONE
STUDY CAST IMPRRESS	54.6	12.2	33.2	7.4
REM SUTURES/DRESS	83.0	4.0	13.0	6.7
PLACE AMALGAM REST.	72.6	27.3	0.1	4.7
CARVE/FINISH AMALGAM	72.8	27.1	0.1	4.7
PLACE/FINISH COMPOSITE	73.0	27.0	0.0	4.9
ADM. LOCAL ANESTH.	100.0	0.0	0.0	0.3
SEALANT APPLICATION	75.7	22.1	2.2	39.9
ORAL HYGIENE INSTR	49.5	30.8	19.6	0.9
ORAL PROPHYLAXIS	28.5	67.1	4.4	17.9
SCALING	48.3	50.9	0.8	13.2
TAKING X-RAYS	15.7	11.1	73.3	18.2
COMPLETING RECORDS	68.6	12.6	18.8	0.4

TABLE 14

WHO SHOULD PERFORM SELECTED PROCEDURES?

DATA GIVEN IN PERCENTAGE OF RESPONDENTS

RESPONSES FOR SPECIALISTS

	DDS	DTA	ASSN	NOT DONE
STUDY CAST IMPRRESS	55.0	8.4	36.5	10.8
REM SUTURES/DRESS	71.8	5.9	22.2	19.9
PLACE AMALGAM REST.	84.1	15.3	0.6	35.9
CARVE/FINISH AMALGAM	83.4	16.3	0.3	36.1
PLACE/FINISH COMPOSITE	85.2	14.8	0.0	36.1
ADM. LOCAL ANESTH.	00.0	0.0	0.0	13.8
SEALANT APPLICATION	74.6	20.4	5.0	60.3
ORAL HYGIENE INSTR	50.6	17.8	31.6	2.3
ORAL PROPHYLAXIS	38.7	45.9	15.5	33.6
SCALING	57.4	36.6	5.9	28.5
TAKING X-RAYS	15.4	11.6	72.9	25.2
COMPLETING RECORDS	62.5	8.7	28.8	0.6

TABLE 15

MEAN TIME ESTIMATES AND

DOLLAR VALUE OF SELECTED PROCEDURES

ALL DENTISTS

	time minutes	$$$ value
ORAL EXAM WO X-RAYS	11.07	21.63
ONE-SURFACE AMALGAM	18.10	21.83
TWO-SURFACE AMALGAM	25.48	32.02
THREE-SURFACE AMALGAM	31.04	40.97
SINGLE FULL GOLD CROWN	120.83	256.76
ANTERIOR ROOT CANAL	78.86	144.98
UPPER ACRYLIC DENTURE	218.02	320.26
SINGLE TOOTH EXTRACTION	24.29	29.69

TABLE 16

MEAN TIME ESTIMATES AND

DOLLAR VALUE OF SELECTED PROCEDURES

GENERAL DENT.

	time minutes	$$$ value
ORAL EXAM WO X-RAYS	10.0	18.84
ONE-SURFACE AMALGAM	17.6	21.54
TWO-SURFACE AMALGAM	25.4	31.71
THREE-SURFACE AMALGAM	31.1	40.76
SINGLE FULL GOLD CROWN	119.8	265.07
ANTERIOR ROOT CANAL	79.0	148.03
UPPER ACRYLIC DENTURE	206.3	326.52
SINGLE TOOTH EXTRACTION	23.9	27.97

TABLE 17

MEAN TIME ESTIMATES AND

DOLLAR VALUE OF SELECTED PROCEDURES

SPECIALISTS

	time minutes	$$$ value
ORAL EXAM WO X-RAYS	12.0	22.86
ONE-SURFACE AMALGAM	17.0	21.00
TWO-SURFACE AMALGAM	29.0	32.70
THREE-SURFACE AMALGAM	31.4	42.09
SINGLE FULL GOLD CROWN	115.7	267.69
ANTERIOR ROOT CANAL	63.4	150.71
UPPER ACRYLIC DENTURE	194.0	350.24
SINGLE TOOTH EXTRACTION	20.4	26.54

TABLE 18

PATIENT AGES

10 YEARS OR YOUNGER	7.5
10 TO 15	8.1
15 TO 25	38.9
25 TO 50	34.4
50 ABOVE	15.0

TABLE 19

PATIENT STATUS

ACTIVE DUTY ARMY	46.09
OTHER MILITARY	4.25
ADULT DEPENDENTS	18.12
CHILD DEPENDENTS	13.00
RETIRED	14.08
OTHER	3.28
HANDICAPPED: PHYSICALLY OR MENTALLY	2.63

TABLE 20

LABORATORY PROCEDURES COMPLETED BY DENTISTS

	ALL DENTISTS mean	6ZA OFFICERS mean	SPECIAL-ISTS mean
TRIM DIES	74.5	86.5	52.9
ARTICULATE MDLS	58.0	64.2	46.8
TRAY FAB.	24.6	29.8	15.0
OCCLUSAL RIMS	14.0	17.8	7.1
SET TEETH	15.1	15.3	14.7
POLISH DENT.	26.2	29.4	20.5
WAX-UPS	13.9	14.6	12.6
METAL FINISH	28.2	32.5	20.5
PORC. APPL	5.4	4.9	6.3
STAIN GLAZE	48.7	53.1	40.8
OTHER	48.6	42.5	59.7

TABLE 21

CLINIC LABORATORY SUPPORT

	ALL DENTISTS mean	63A OFFICERS mean	SPECIAL-ISTS mean
NO CLINIC LAB	13.1	14.9	10.2
DENTURES	55.4	57.9	51.1
CROWNS	52.2	54.2	48.9
PORCELAIN VENEER CROWNS	27.4	26.0	29.6
CAST PARTIAL DENTURES	8.2	8.2	8.2
CAST DOWEL/CORE	47.4	48.1	46.0
SPACE RETAINERS	45.4	44.6	46.5
OTHER	49.5	42.0	62.2

TABLE 22

AREA DENTAL LABORATORY SUPPORT

	ALL DENTISTS	63A OFFICERS	SPECIAL-ISTS
	mean	mean	mean
DENTURES	30.1	31.2	28.2
CROWNS	63.5	68.2	54.6
PORCELAIN VENEER CROWNS	78.5	82.0	71.6
CAST PARTIAL DENTURES	79.9	82.2	75.3
CAST DOWEL/CORE	22.1	22.9	20.7
SPACE RETAINERS	17.4	17.4	17.5
OTHER	28.0	23.2	37.1
AV LAB TURN-AROUND TIME (weeks)		6.37	

TABLE 23

PROFESSIONAL ACTIVITIES

	ALL DENTISTS			63A DEN. OFF.			SPECIALISTS		
	mean	% w 1	% >1	mean	% w 1	% >1	mean	% w 1	% >1
NO. OF STATE LICENSES	1.3	87.4	28.8	1.2	84.1	23.7	1.5	92.6	37.2
NO. PROF. MEMBERSHIPS	1.8	83.6	56.7	1.3	75.3	40.1	2.6	96.8	83.1
NO. PROF. ARTICLES	0.4	24.6	13.2	0.2	11.0	4.2	0.9	46.2	27.5
NO. PROF. MEETINGS ATTN.	2.8	94.4	66.0	3.0	94.5	69.5	2.6	94.3	61.8

APPENDIX E

PATIENT ENCOUNTER FORM

DENTAL PATIENT ENCOUNTER FORM

DO NOT MARK IN THIS AREA 014163

DATE		POST CODE	DOCTOR'S LAST FOUR SSN	SSI 63–?	APPOINT TYPE
DAY	MON				
0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	A B C D E F G H K M N P R	ROUTINE, EMERG, OHMP, FILL-IN, FAILED; — PATIENT —: ARMY, AF, NAV/MC, RETIRED; CHILD DEP, ADULT DEP, OTHER

THE OFFICE OF THE SURGEON GENERAL FOR DENTAL SERVICES WILL ACCEPT DATA FROM THE DENTAL STUDIES OFFICE IN SUMMARY FASHION IN A MANNER IN WHICH NO INDIVIDUAL OR COMMAND IS IDENTIFIED

— — — DATA REQUIRED BY THE ARMY PRIVACY PROGRAM — —

1 AUTHORITY 10 USC SEC 30-12
2 PURPOSE TO EVALUATE TIME UTILIZATION IN THE DENTAL CARE SYSTEM
3 ROUTINE USES TO DETERMINE RESOURCE REQUIREMENTS
4 MANDATORY OR VOLUNTARY DISCLOSURE DISCLOSURE MANDATORY
5 INDIVIDUAL EFFECT OF NOT PROVIDING INFORMATION NO EFFECT

THE GOAL IS TO PROVIDE ACCURATE AND RELIABLE MANAGEMENT INFORMATION

PROCEDURE CODE	FORM COMPLETION TIME
9 0 0 0	0 1 2 3 4 5 6 7 8 9

DOLLAR VALUE $5

USE NO 2 PENCIL ONLY

- Make dark marks that fill the circle completely
- Erase cleanly any mark you wish to change
- Make no stray marks on this form.

MILITARY TIME IN	IN
0 1 2 3 4 5 6 7 8 9	

PROCEDURE CODE	REPEATED	TIME -minutes-	PROVIDERs
0 1 2 3 4 5 6 7 8 9	2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D+ ASST, D alone, D+ DTA, D+ DTA and ASST, ASST, DTA; SEVERITY: E M H; C & B PROS, PRE, POST

PROCEDURE CODE	REPEATED	TIME -minutes-	PROVIDERs
0 1 2 3 4 5 6 7 8 9	2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D+ ASST, D alone, D+ DTA, D+ DTA and ASST, ASST, DTA; SEVERITY: E M H; C & B PROS, PRE, POST

PROCEDURE CODE	REPEATED	TIME -minutes-	PROVIDERs
0 1 2 3 4 5 6 7 8 9	2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D+ ASST, D alone, D+ DTA, D+ DTA and ASST, ASST, DTA; SEVERITY: E M H; C & B PROS, PRE, POST

PROCEDURE CODE	REPEATED	TIME -minutes-	PROVIDERs
0 1 2 3 4 5 6 7 8 9	2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D+ ASST, D alone, D+ DTA, D+ DTA and ASST, ASST, DTA; SEVERITY: E M H; C & B PROS, PRE, POST

PROCEDURE CODE	REPEATED	TIME -minutes-	PROVIDERs
0 1 2 3 4 5 6 7 8 9	2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D+ ASST, D alone, D+ DTA, D+ DTA and ASST, ASST, DTA; SEVERITY: E M H; C & B PROS, PRE, POST

PROCEDURE CODE	REPEATED	TIME -minutes-	PROVIDERs
0 1 2 3 4 5 6 7 8 9	2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D+ ASST, D alone, D+ DTA, D+ DTA and ASST, ASST, DTA; SEVERITY: E M H; C & B PROS, PRE, POST

PROCEDURE CODE	REPEATED	TIME -minutes-	PROVIDERs
0 1 2 3 4 5 6 7 8 9	2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D+ ASST, D alone, D+ DTA, D+ DTA and ASST, ASST, DTA; SEVERITY: E M H; C & B PROS, PRE, POST

PROCEDURE CODE	REPEATED	TIME -minutes-	PROVIDERs
0 1 2 3 4 5 6 7 8 9	2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D+ ASST, D alone, D+ DTA, D+ DTA and ASST, ASST, DTA; SEVERITY: E M H; C & B PROS, PRE, POST

PROCEDURE CODE	REPEATED	TIME -minutes-	PROVIDERs
0 1 2 3 4 5 6 7 8 9	2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D+ ASST, D alone, D+ DTA, D+ DTA and ASST, ASST, DTA; SEVERITY: E M H; C & B PROS, PRE, POST

OUT	MILITARY TIME OUT
	0 1 2 3 4 5 6 7 8 9

• U S GOVERNMENT PRINTING OFFICE 1984-770 610

EB08 13996 321

APPENDIX F

PROCEDURES NOT PERFORMED

Procedures Not Performed

2420 GOLD FOIL II	5915 NOSE PROS
3980 ENDOSSEOUS IMP	5935 FACIAL PROSTHES
4372 BICUSPIDIZATION	5940 IMPLANTS
5170 COMP DTR AML OC	5950 INCLINE PLANE
5207 PRECISN ATTACH	5955 MND GUIDE PLN
5220 AMALG OCCLUSALS	5960 PALATAL LIFT
5812 DUPE MAX OVERDT	5970 OBTURATOR
5813 DUPE MND OVRDT	6170 INTRACORONAL RT
5816 OVERDTR MAX MTL	7265 CLEFT LIP REPAIR
5817 OVERDTR MND MTL	7520 BIOPSY
5825 OVERDTR ATTACHM	7880 ARTHROGRAPHY
5864 OVERDTR PTR MX	8212 HABIT MOUTH BRE
5866 OVRDTR IM MX P	9944 RAD NDL CARER

APPENDIX G
INFREQUENTLY PERFORMED PROCEDURES

Infrequently Performed Procedures
(By Specialty)

N = < 100

	PROCEDURE	N
0141	POST MORTEM EXAM	6
0310	SIALOGRAPHY	17
0410	BACT CULTURE	89
0420	CARIES SUSCE	11
1245	FLUORIDE SELF	26
2210	SILICATE	17
2410	GOLD FOIL I	10
2430	GOLD FOIL III	6
2440	GOLD FOIL IV	3
2450	FOLD FOIL V	2
2460	FOLD FOIL VI	7
2511	INLAY 1 SURFACE	1
2521	INLAY 2 SURFACES	8
2531	INLAY 3 SURFACES	6
2541	ONLAY	15
2542	PINLEDGE	1
2610	PORCELAIN INLAY	2
3312	ANTERIOR 2 CNL	25
3323	PREMOLAR 3 CNL	6
3331	MOLAR 1 CANAL	56
3332	MOLAR 2 CANALS	69
3340	DECIDUOUS RCF	67
3350	APEXIFICATION	67
3420	RETROGRADE FIL	47
3470	SURGICAL FENES	27
3480	PNEUMATIZATION	2
3970	PERFOR REPAIR	18
3981	ENDO INTER SPL	5
4261	OSSEOUS GRAFT	31
4270	PEDICLE GRAFT	65
4272	VESTIBULOPLST	64
4320	PROV SPLT INTRA	34
4321	PROV SPLT EXT	50
4370	HEMISECTION	5
4371	ROOT AMPUTATION	30
5140	IMM MAND DTR	25
5150	COMP DTR MT BS	10
5160	COMP DTR CST OC	1
5203	CST MIL MAXILRY	68
5204	CAST METAL MAND	91
5208	MAX PRECIS STCH	1
5209	MAND PRECIS ATT	1
5210	CAST MET OCCLUS	11
5330	CORRECT CAST RP	62
5699	PRECIS ATCH RPD	2
5711	MAX DUP DTR	21
5712	MAND DUP DTR RP	38
5742	RELN PTR MND CH	87
5752	RELN MND DTR L	68
5761	RELINE PTR MAX L	7
5762	RELN PTR MND L	25
6763	RBASE MX DTR LA	21
5764	REBS MND DTR L	8
5765	RBASE PTR MX LA	5
5766	REBS PTR MND L	5
5811	DTR TEMP MANDMX	69
5814	OVRDDTR IMED MX	10
5815	OVERTR IMD MND	5
5862	OVERDTR MAX	7
5863	OVERDTR MAND	5
5865	OVERDTR LTR MND	2
5867	OVERDTR IM MAN P	2
5905	PROS CAST	1
5910	EAR PROS	3
5920	EYE PROS	1
5925	OTHER PROSTHES	1
5930	FACE MAK CUSTM	1
5980	SPEECH BULB	1
6110	RET ACRYL VEN	2
6120	RET PROCELAIN	7
6140	RET REVERSE PIN	10
6203	PONTIC PORCELAIN	16
6204	PONTIC ACR VEN	5
6205	REVERSE PIN FAC	1
6220	PNTIC SLT FACNG	8
6612	BROKEN CONNECTR	18
6713	CR CRYL VENEER	2
6740	CR PORCELAIN	3
6760	CR REV PIN FCNG	3
6780	CR PTR VENEER	87
7140	TRANSPLNT RPLNT	11
7150	SURGICAL EXPOSU	41
7211	WOUND SPINT5 CM	41
7212	WOUND COMPLX <5 CM	23
7213	WOUND COMPLEX >5 CM	48
7260	CLEFT PLT REPR	1
7270	O-A FISTULA RPR	26
7275	O-N FISTULA REPR	2
7280	SKIN-MUCOSAL GR	8
7285	BONE GR-IMPLANT	25
7350	STOMATOPLASTY C	39
7405	SAL GLAND SURG	13
7432	EXCISION BENIGN	41
7442	EXCISN MALIG TUMOR	2
7462	REM NON-ODONT T	48
7465	DEST OF LESIONS	22
7480	PTR RESECTION	1
7481	SEQUESTRESTOMY	82
7485	RADICAL RESECTN	1
7530	REM FOREIGN BODY	67
7560	MAX SINUSOTOMY	13
7570	CRICOTHYROTOMY	1
7580	TRACHESTOMY	1
7610	MAXILLA OPEN RE	4
7620	MAXILA CLSD RED	8
7630	MAND OPEN RED	20
7640	MAND CLOSED RED	30
7651	ZMC FRACTURE	11
7680	FACL BONE FRACT	1
7681	OTHER FX RED	3
7711	MAX OSTEOTOMY	20
7712	MAX OSTEOTOMY SE	36
7721	MND OSTEOTOMY RA	57
7722	MAND OSTEOTOMY	10
7755	AUGMENTATION	13
7811	RED DISLOCATION	18
7845	TMJ SURGERY	18
8110	SPACE MAINT REM	4
8210	SPACE MNT SPL	8
8220	HABIT BRKR FIXD	32
8320	REM EXP APPL SM	4
8322	FIXD EXP APPL	56
8330	BITE PLANE ANT	11
8331	BITE PLANE PSTR	6
8445	PASSIVE LING WI	65
8446	FACE BOW HOOKS	92
8540	POSITIONER INS	2
8997	FULL BAND STRT	76
9232	I.M. SED	16
9235	HYPNOSISOTMY RA	10
9922	SURG PCDR DX	79
9925	MAND RECORDING	54
9940	MOUTH PROTECTOR	71
9941	RESIN STINTS	61
9942	FLUORIDE CARIER	15
9943	RADIATION SHIELD	2
9971	HYPERBAR MONITOR	5

Infrequently Performed Procedures
(By Frequency)

N = < 100

N	PROCEDURE
1	2511 INLAY 1 SURFACE
1	2542 PINLEDGE
1	5160 COMP DTR CST OC
1	5208 MAX PRECIS STCH
1	5209 MAND PRECIS ATT
1	5905 PROS CAST
1	5920 EYE PROS
1	5925 OTHER PROSTHES
1	5930 FACE MAK CUSTM
1	5980 SPEECH BULB
1	6205 REVERSE PIN FAC
1	7260 CLEFT PLT REPR
1	7480 PTR RESECTION
1	7485 RADICAL RESECTN
1	7570 CRICOTHYROTOMY
1	7580 TRACHESTOMY
1	7680 FACL BONE FRACT
2	2450 FOLD FOIL V
2	2610 PORCELAIN INLAY
2	3480 PNEUMATIZATION
2	5699 PRECIS ATCH RPD
2	5865 OVERDTR LTR MND
2	5867 OVERDTR IM MAN P
2	6110 RET ACRYL VEN
2	6713 CR CRYL VENEER
2	7275 O-N FISTULA REPR
2	7442 EXCISN MALIG TUMOR
2	8540 POSITIONER INS
2	9943 RADIATION SHIELD
3	2440 GOLD FOIL IV
3	5910 EAR PROS
3	6740 CR PORCELAIN
3	6760 CR REV PIN FCNG
3	7681 OTHER FX RED
4	7610 MAXILLA OPEN RE
4	8110 SPACE MAINT REM
4	8320 REM EXP APPL SM
5	3981 ENDO INTER SPL
5	4370 HEMISECTION
5	5765 RBASE PTR MX LA
5	5766 REBS PTR MND L
5	5815 OVERTR IMD MND
5	5863 OVERDTR MAND
5	6204 PONTIC ACR VEN
5	9971 HYPERBAR MONITOR
6	0141 POST MORTEM EXAM
6	2430 GOLD FOIL III
6	2531 INLAY 3 SURFACES
6	3323 PREMOLAR 3 CNL
6	8331 BITE PLANE PSTR
7	2460 FOLD FOIL VI
7	5761 RELINE PTR MAX L
7	5862 OVERDTR MAX
7	6120 RET PROCELAIN
8	2521 INLAY 2 SURFACES
8	5764 REBS MND DTR L
8	6220 PNTIC SLT FACNG
8	7280 SKIN-MUCOSAL GR
8	7620 MAXILA CLSD RED
8	8210 SPACE MNT SPL
10	2410 GOLD FOIL I
10	5150 COMP DTR MT BS
10	5814 OVRDDTR IMED MX
10	6140 RET REVERSE PIN
10	7722 MAND OSTEOTOMY
10	9235 HYPNOSISOTMY RA
11	0420 CARIES SUSCE
11	5210 CAST MET OCCLUS
11	7140 TRANSPLNT RPLNT
11	7651 ZMC FRACTURE
11	8330 BITE PLANE ANT
13	7405 SAL GLAND SURG
13	7560 MAX SINUSOTOMY
13	7755 AUGMENTATION
15	2541 ONLAY
15	9942 FLUORIDE CARIER
16	6203 PONTIC PORCELAIN
16	9232 I.M. SED
17	0310 SIALOGRAPHY
17	2210 SILICATE
18	3970 PERFOR REPAIR
18	6612 BROKEN CONNECTR
18	7811 RED DISLOCATION
18	7845 TMJ SURGERY
20	7630 MAND OPEN RED
20	7711 MAX OSTEOTOMY
21	5711 MAX DUP DTR
21	6763 RBASE MX DTR LA
22	7465 DEST OF LESIONS
23	7212 WOUND COMPLX <5 CM
25	3312 ANTERIOR 2 CNL
25	5140 IMM MAND DTR
25	5762 RELN PTR MND L
25	7285 BONE GR-IMPLANT
26	1245 FLUORIDE SELF
26	7270 O-A FISTULA RPR
27	3470 SURGICAL FENES
30	4371 ROOT AMPUTATION
30	7640 MAND CLOSED RED
31	4261 OSSEOUS GRAFT
32	8220 HABIT BRKR FIXD
34	4320 PROV SPLT INTRA
36	7712 MAX OSTEOTOMY SE
38	5712 MAND DUP DTR RP
39	7350 STOMATOPLASTY C
41	7150 SURGICAL EXPOSU
41	7211 WOUND SPINT5 CM
41	7432 EXCISION BENIGN
47	3420 RETROGRADE FIL
48	7213 WOUND COMPLEX >5 CM
48	7462 REM NON-ODONT T
50	4321 PROV SPLT EXT
54	9925 MAND RECORDING
56	3331 MOLAR 1 CANAL
56	8322 FIXD EXP APPL
57	7721 MND OSTEOTOMY RA
61	9941 RESIN STINTS
62	5330 CORRECT CAST RP
64	4272 VESTIBULOPLST
65	4270 PEDICLE GRAFT
65	8445 PASSIVE LING WI
67	3340 DECIDUOUS RCF
67	3350 APEXIFICATION
67	7530 REM FOREIGN BODY
68	5203 CST MIL MAXILRY
68	5752 RELN MND DTR L
69	3332 MOLAR 2 CANALS
69	5811 DTR TEMP MANDMX
71	9940 MOUTH PROTECTOR
76	8997 FULL BAND STRT
79	9922 SURG PCDR DX
62	7481 SEQUESTRESTOMY
87	5742 RELN PTR MND CH
87	6780 CR PTR VENEER
89	0410 BACT CULTURE
91	5204 CAST METAL MAND
92	8446 FACE BOW HOOKS

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